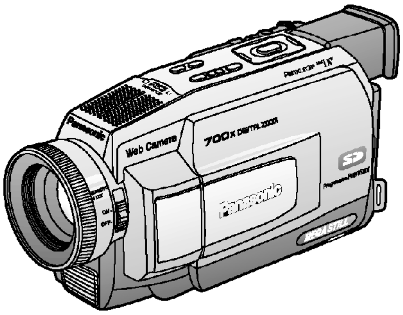
ORDER NO. VMD0202020C3

Service Manual

Digital Video Camcorder

PV-DV102PN / PV-DV202PN / PV-DV402PN



SPECIFICATIONS

ITEM	SPECIFICATION	1	2	3
Power Source	Palmcorder: 7.2 V DC (Battery) 7.8 V DC (AC Adaptor) AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Lithium-Ion Type DC 7.2 V	○	○	○
Power Consumption	Palmcorder: 7.2 V/7.8 V DC 6.5 W (Max. 9.5 W) AC Adaptor: 18 W 1 W (when not in use.)	○	○	○
Video Signal	EIA Standard (525 lines, 60 fields) NTSC color signal	○	○	○
Video Recording System	2 rotary heads. helical scanning system	○	○	○
Audio	12 bit (32 kHz) 4 tracks 16 bit (48 kHz) 2 tracks	○	○	○
Pick-Up System and Device	One integral color filter Charge Coupled Device (CCD)	○	○	○
Lens	10:1 zoom lens, F1:1.8 with auto iris control Focal length: 3.6 mm - 36 mm Power zoom function Lens filter diameter: 43 mm	○	○	○
Digital Interface	USB/i.Link (IEEE1394)	○	○	○
Viewfinder	5.3 mm (0.21 inch) Liquid Crystal Electronic Viewfinder	○	○	○

ITEM	SPECIFICATION	1	2	3
LCD Monitor	63.5 mm (2.5 inch) Liquid Crystal Display 88.9 mm (3.5 inch) Liquid Crystal Display	○ –	○ –	– ○
Minimum Illumination Required	5 lx (F1:1.8) 0.5 footcandles 0 lx (MAGICVU/0LUX ON)	○ –	○ –	○ ○
Memory (Still Image)	MultiMediaCard/SD Memory Card 640 x 480 pixels (NORMAL mode) 1,280 x 960 pixels (FINE mode)	○	○	○
Image Storage (8 MB Memory Card)	Approx. 70 images (NORMAL mode) Approx. 30 images (FINE mode)	○	○	○
Image Format	JPEG (Design Rule for Camera File System)	○	○	○
Operating Condition	0 ˚C~40 ˚C (32 ˚F~104 ˚F) (Temperature) 10 %~75 % (Humidity)	○	○	○
Weight	Palmcorder: 0.58 kg (1.28 lbs.) AC Adaptor: 0.16 kg (0.35 lbs.)	○	○	○
Dimension	Palmcorder: 88.5 mm x 74 mm x 182 mm (W x H x D) (3-1/2 inch x 2-7/8 inch x 7-1/8 inch) (W x H x D)	○	–	–
	88.5 mm x 74 mm x 185 mm (W x H x D) (3-1/2 inch x 2-7/8 inch x 7-5/16 inch) (W x H x D)	–	○	○
	AC Adaptor: 70 mm x 45 mm x 115 mm (W x H x D) (2-3/4 inch x 1-3/4 inch x 4-1/2 inch) (W x H x D)	○	○	○

1. PV-DV102
2. PV-DV202
3. PV-DV402

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

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⚠ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

1. PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. **Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.**
2. **After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.**
3. **Use only a grounded-tip soldering iron to solder or unsolder ES devices.**
4. **Use only an antistatic solder removal device. Some solder removal devices not classified as "antistatic (ESD protected)" can generate electrical charge sufficient to damage ES devices.**
5. **Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.**
6. **Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).**
7. **Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be**

installed.

CAUTION :

Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

2. SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. IMPORTANT SAFETY NOTICE
   There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Layout, Exploded Views and Replacement Parts List. It is essential that these critical parts should be replaced with manufacturer’s specified parts to prevent X-RADIATION, shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.
2. An Isolation Transformer should always be used during the servicing of AC Adaptor whose chassis is not isolated from the AC power line. Use a transformer of adequate power rating as this protects the technician from accidents resulting in personal injury from electrical shocks. It will also protect AC Adaptor from being damaged by accidental shorting that may occur during servicing.
3. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
4. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
5. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs

on the plug.

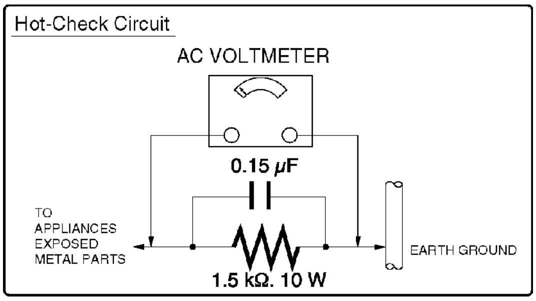
2. **Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between 1 MΩ and 5.2 MΩ. When the exposed metal does not have a return path to the chassis, the reading must be infinity.**

LEAKAGE CURRENT HOT CHECK

(See Figure 1.)

1. **Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.**
2. **Connect a 1.5 kΩ, 10 W resistor, in parallel with a 0.15 μF capacitor, between each exposed metallic part on the set and a good earth ground, as shown in Figure 1.**
3. **Use an AC voltmeter, with 1 kΩ/V or more sensitivity, to measure the potential across the resistor.**
4. **Check each exposed metallic part, and measure the voltage at each point.**
5. **Reverse the AC plug in the AC outlet and repeat each of the above measurements.**
6. **The potential at any point should not exceed 0.75 V RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 mA. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.**

Figure. 1



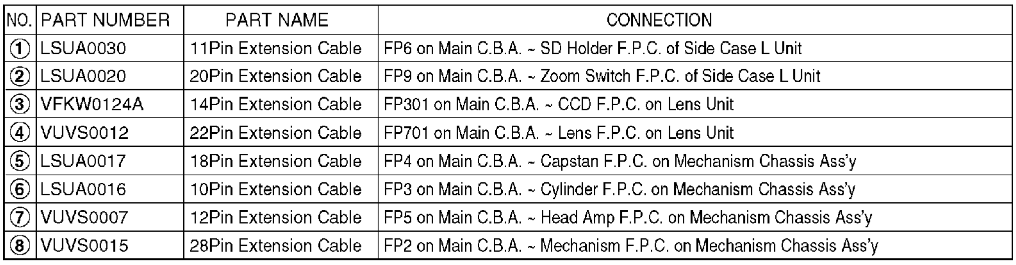
3. OPERATION GUIDE

4. SERVICE NOTES (PLEASE READ)

4.1. SERVICE NOTES

4.1.1. EXTENSION CABLES FOR SERVICE POSITION

Using the following Extension Cables, place the unit as shown for check and service. Extension Cables (No.5 ~ No.8) are used for improving serviceability. (They are not necessarily used.)

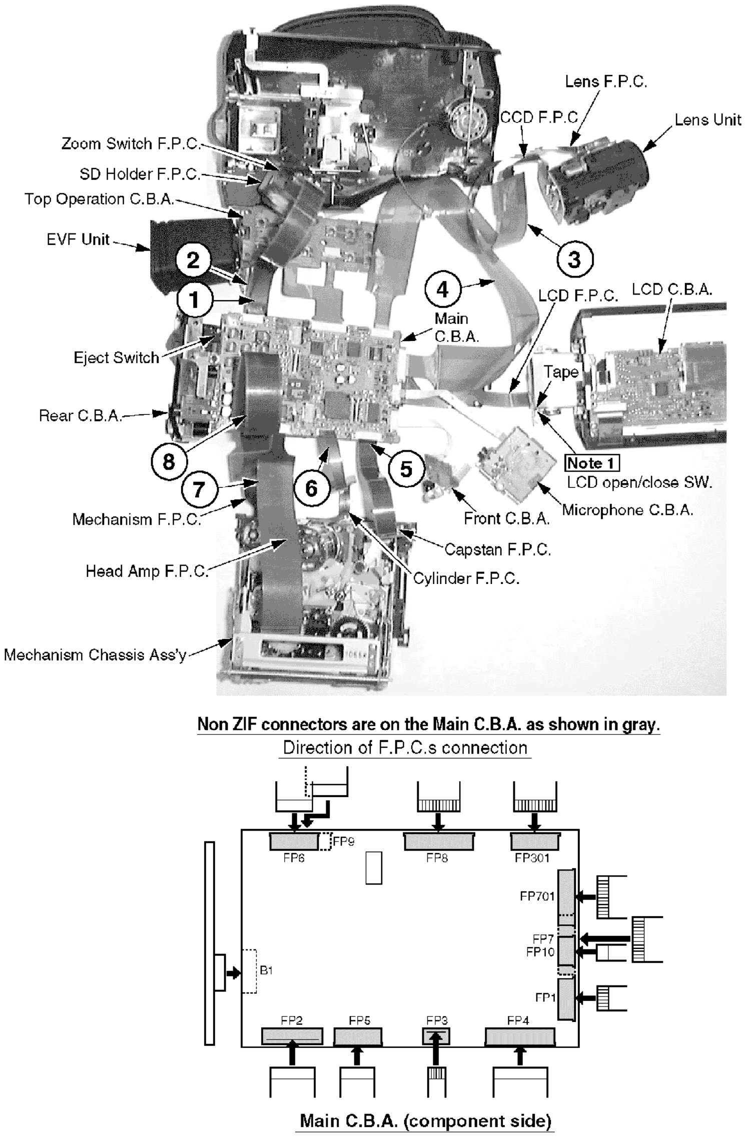


NO.	PART NUMBER	PART NAME	CONNECTION
①	LSUA0030	11Pin Extension Cable	FP6 on Main C.B.A. ~ SD Holder F.P.C. of Side Case L Unit
②	LSUA0020	20Pin Extension Cable	FP9 on Main C.B.A. ~ Zoom Switch F.P.C. of Side Case L Unit
③	VFKW0124A	14Pin Extension Cable	FP301 on Main C.B.A. ~ CCD F.P.C. on Lens Unit
④	VUVS0012	22Pin Extension Cable	FP701 on Main C.B.A. ~ Lens F.P.C. on Lens Unit
⑤	LSUA0017	18Pin Extension Cable	FP4 on Main C.B.A. ~ Capstan F.P.C. on Mechanism Chassis Ass'y
⑥	LSUA0016	10Pin Extension Cable	FP3 on Main C.B.A. ~ Cylinder F.P.C. on Mechanism Chassis Ass'y
⑦	VUVS0007	12Pin Extension Cable	FP5 on Main C.B.A. ~ Head Amp F.P.C. on Mechanism Chassis Ass'y
⑧	VUVS0015	28Pin Extension Cable	FP2 on Main C.B.A. ~ Mechanism F.P.C. on Mechanism Chassis Ass'y

Note :

1. **The LCD open/close SW. is for changing between LCD Display or EVF Display. When turning on LCD Display, place some paper or tape, etc. on LCD open/close SW. so that this SW. stays ON.**
2. **Connect the F.P.C.s to the connectors, verifying the direction of F.P.C. as shown.**
3. **Use a grounded ESD wrist strap while disassembling the Lens portion.**
4. **Use extreme care when unplugging or plugging in connectors.**

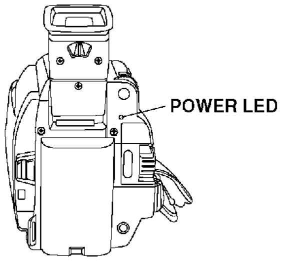
Fig. 1

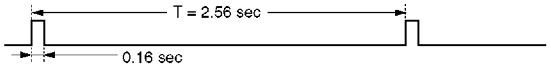
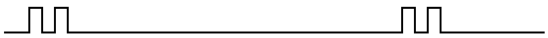
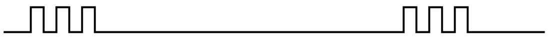
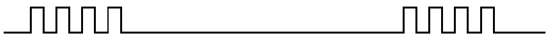
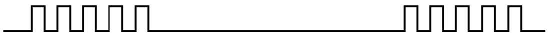

Lens F.P.C.
CCD F.P.C.
Lens Unit
Zoom Switch F.P.C.
SD Holder F.P.C.
Top Operation C.B.A.
EVF Unit
2
1
3
4
Main C.B.A.
LCD F.P.C.
LCD C.B.A.
Eject Switch
Tape
Rear C.B.A.
8
7
6
5
Note 1
LCD open/close SW.
Microphone C.B.A.
Front C.B.A.
Mechanism F.P.C.
Capstan F.P.C.
Head Amp F.P.C.
Cylinder F.P.C.
Mechanism Chassis Ass'y
Non ZIF connectors are on the Main C.B.A. as shown in gray.
Direction of F.P.C.s connection
FP9
FP6
FP8
FP301
FP701
FP7
FP10
FP1
B1
FP2
FP5
FP3
FP4
Main C.B.A. (component side)

4.1.2. SIMPLIFIED FAULT FINDING DATA (SELF-DIAGNOSTIC SYSTEM)

When following conditions occur, the Power LED will flash according to the condition.

Fig. 2-1



CONDITION	POWER LED FLASHING TIMING & POWER OFF TIMING
T-Reel Lock	After 1 minute flash, power will be turned off. 
S-Reel Lock	After 1 minute flash, power will be turned off. 
Unloading Lock	After 1 minute flash, power will be turned off. 
Loading Lock	After 1 minute flash, power will be turned off. 
Cylinder Lock	After 1 minute flash, power will be turned off. 
Focus Motor Lock	Power LED flashes at 1 Hz timing.
Zoom Motor Lock	Power LED flashes at 1 Hz timing.
Dew Detection	After 18 seconds flash at 1 Hz timing, power will be turned off.

(For model with SD/MMC Slot)

If any of the following numbers appear on-screen, the palmcorder may need service. Do not remove the battery (if attached) and write down the displayed number.

Fig. 2-2

Error No.	Error Description
U11	Card Error
U12	Card Error
U13	Card Error
U14	Card/Camcorder Dialogue Error
U15	Card Access Error
U16	Card Access Error
U30	Error other than above

Note:

While battery remains, the Error No. will be displayed again when

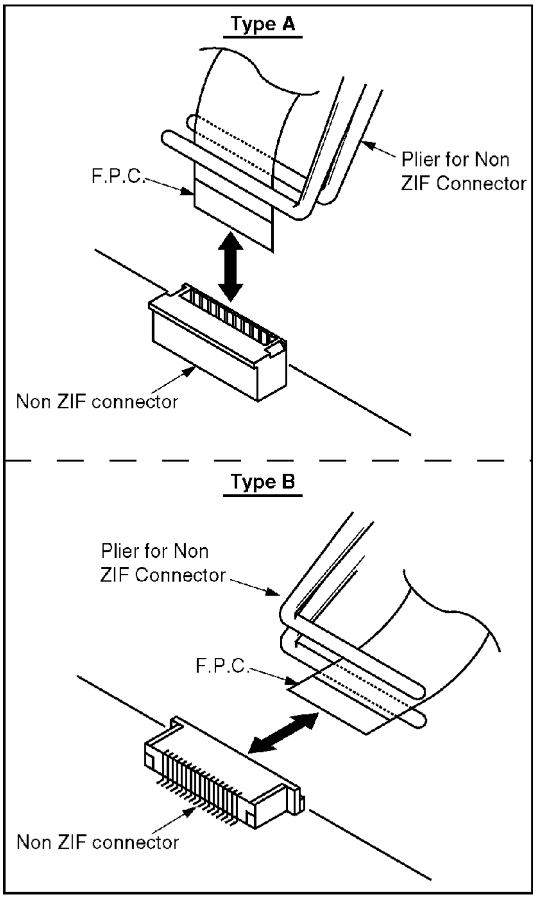
the power is switched off and on again. (Once the Battery is removed or dead, Error No. will not remain in the memory.)

4.1.3. REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR

Removal/Installation of F.P.C. from the Non ZIF (Zero Insertion Force) connector:

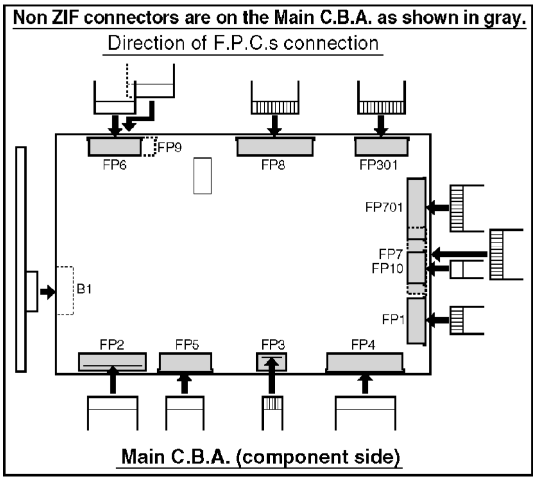
1. **The Non ZIF connectors and the ZIF connectors are used on the unit. And there are 2 types (Type A, Type B) of Non ZIF connectors.**
2. **To remove the F.P.C. from the Non ZIF connector, use the Plier for Non ZIF Connector (LSVQ0028) to pull out the F.P.C. as shown. The same Plier for Non ZIF Connector (LSVQ0028) should also be used to install the F.P.C. to the Non ZIF Connector.**

Fig. 3-1


Type A
F.P.C.
Plier for Non ZIF Connector
Non ZIF connector
Type B
Plier for Non ZIF Connector
F.P.C.
Non ZIF connector

3. **Connect the F.P.C.s to the Non ZIF connectors, verifying the direction of F.P.C as shown.**

Fig. 3-2


Non ZIF connectors are on the Main C.B.A. as shown in gray.
Direction of F.P.C.s connection
FP9
FP6
FP8
FP301
FP701
FP7
FP10
B1
FP1
FP2
FP5
FP3
FP4
Main C.B.A. (component side)

4.1.4. METHOD FOR LOADING/UNLOADING OF MECHANISM

CAUTION:

If loading does not start after DC Power Supply is applied, DO NOT continue to applying DC Power Supply.

Apply +3 VDC Power Supply to the Loading Motor terminals.

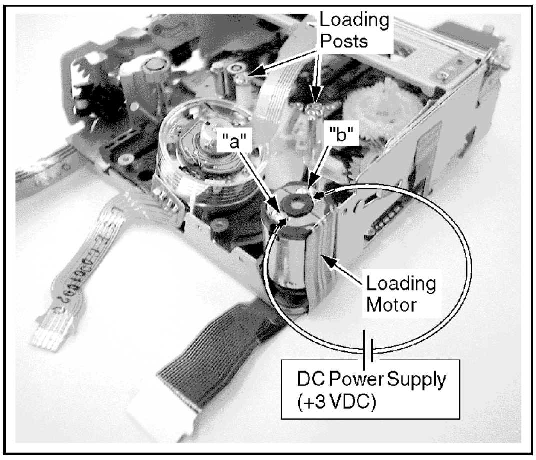
Loading:

DC (-) to Portion "a," DC (+) to Portion "b"

Unloading:

DC (+) to Portion "a," DC (-) to Portion "b"

Fig. 4


Loading
Posts
"a"
"b"
Loading
Motor
DC Power Supply
(+3 VDC)

4.1.5. METHOD FOR EJECTING WITH POWER OFF

CAUTION:

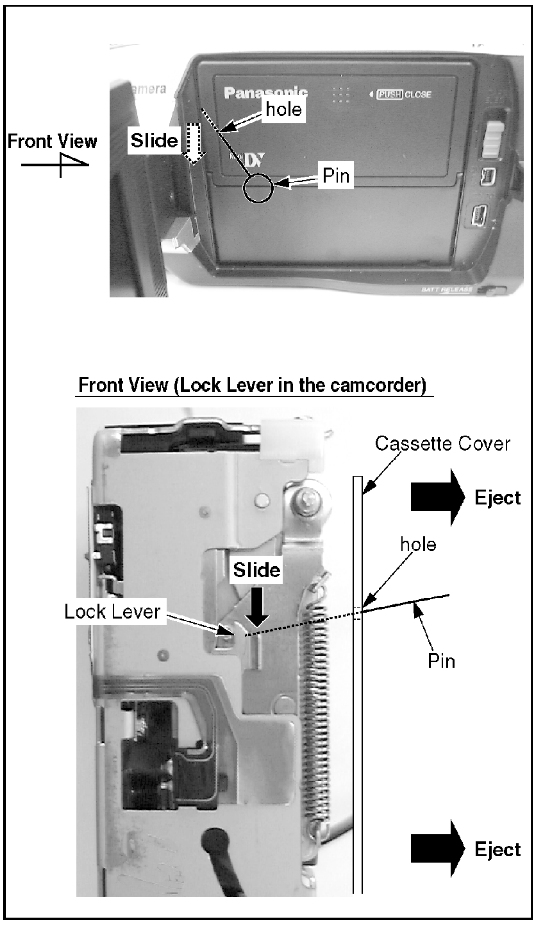
Make sure that a cassette tape is not in when this method is used, or a cassette tape will be damaged. When a cassette tape is jammed, DO NOT eject manually. Refer to "HOW TO REMOVE A JAMMED TAPE."

1. **Insert the Pin or Straightened Paper Clip into the hole on the Cassette Cover.**

2. Slide the Lock Lever of Mechanism Chassis Ass'y.

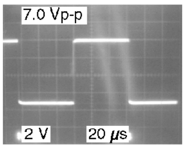
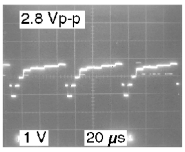
3. The Cassette Cover will open. (Eject)

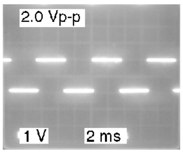
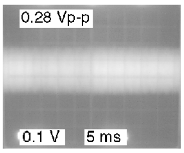
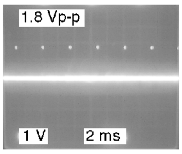
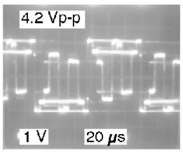
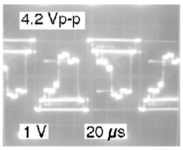
Fig. 5

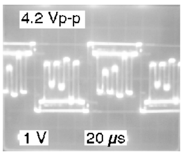
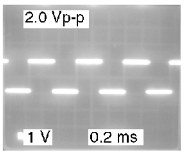
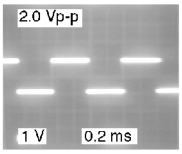

Front View
Panasonic
PUSH CLOSE
hole
Slide
Pin
Front View (Lock Lever in the camcorder)
Cassette Cover
Eject
hole
Slide
Lock Lever
Pin
Eject

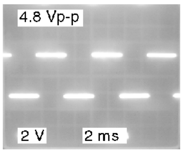
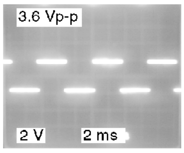
4.1.6. SIGNAL DESCRIPTION ON INTERFACE BOARD FOR ELECTRICAL ADJUSTMENT (LSUP0007)

A signal check can be performed using the Interface Board.

Pin No.	Signal Name	Description	Waveforms
TP101	EEPROM DAT	Not used	---------------
TP102	EEPROM CLK	Not used	---------------
TP103	EEPROM VDD	Not used	---------------
TP104	-----	Not used	---------------
TP105	EVF CR	Not used	---------------
TP106	EVF CB	Not used	---------------
TP107	MON PLL	Not used	---------------
TP108	MON VCOM	To monitor V-COM signal at Pin 10 of FP8002 on LCD C.B.A.	 Camera Mode
TP109	V850 VDD	Not used	---------------
TP110	V850 VPP	Not used	---------------
TP111	V850 SBO	Not used	---------------
TP112	V850 SBI	Not used	---------------
TP113	V850 SCK	Not used	---------------
TP114	M103 MMOD0	Not used	---------------
TP115	M103 MMOD1	Not used	---------------
TP116	M103 VPP	Not used	---------------
TP117	M103 EXMOD1	Not used	---------------
TP118	EVF HD	Not used	
TP119	EVF R	Not used	
TP120	EVF B	Not used	
TP121	EVF G	To monitor lower video drive signal to the LCD Panel at Pin 27 of IC901 on Main C.B.A.	 Camera Mode

Pin No.	Signal Name	Description	Waveforms
TP122	HID	To monitor HID signal at Pin 36 of IC3201 on Main C.B.A.	 Rec/PB Mode
TP123	ENVELOPE	To monitor Envelope signal at Pin 41 of IC5001 on Main C.B.A.	 PB Mode
TP124	SPA	To monitor SPA signal at Pin 35 of IC3201 on Main C.B.A.	 PB Mode
TP125	ATFI	To monitor ATF signal at Pin 20 of IC3201 on Main C.B.A.	---------------
TP126	M103 REG3	Not used	---------------
TP127	DGND	Not used	---------------
TP128	EEPROM CS	Grounding terminal	---------------
TP129	CAMF VDD	Not used	---------------
TP130	CAMF VPP	Not used	---------------
TP131	MON R	To monitor LCD red signal at Pin 8 of IC8001 on LCD C.B.A.	 Camera Mode
TP132	MON B	To monitor LCD blue signal at Pin 4 of IC8001 on LCD C.B.A.	 Camera Mode

Pin No.	Signal Name	Description	Waveforms
TP133	MON G	To monitor LCD green signal at Pin 6 of IC8001 on LCD C.B.A.	 Camera Mode
TP134	CAM AGND	Grounding terminal	---------------
TP135	(CAP FG)	To minitor capstan FG signal at Pin 24 of IC2001 on Main C.B.A.	 Rec/PB Mode(SP)  Rec/PB Mode(LP)
TP136	AGC OUT	Not used	---------------
TP137	M103 PON	Not used	---------------
TP138	AD IN	Not used	---------------
TP139	AD IN2	Not used	---------------
TP140	AGCOUT2	Not used	
TP141	SBO	Not used	---------------
TP142	UARTI	To monitor RS-232C received data	---------------
TP143	RF GND	Not used	---------------
TP144	TCK	Not used	---------------
TP145	TMS	Not used	---------------
TP146	TDO	Not used	---------------
TP147	TDI	Not used	---------------
TP148	MIC CLK	MIC serial clock output from camcorder to PC	---------------
TP149	MIC DATA	MIC serial data output from camcorder to PC	---------------
TP150	SBI	Not used	---------------
TP151	UARTO	To monitor RS-232C transmitted data	---------------
TP152	RECI	Not used	---------------
TP153	SIO	Not used	---------------
TP154	SCK	Not used	---------------
TP155	VD	Not used	

Pin No.	Signal Name	Description	Waveforms
TP156	UNREG	Power input terminal	---------------
TP157	UNREG GND	Grounding terminal	---------------
TP158	VTR RESET	Power microcontroller reset: low	---------------
TP159	CAM RESET	Not used	---------------
TP160	VTR RESET	Not used	---------------
TP161	(HID2)	To monitor HID signal at Pin 36 of IC3201 on Main C.B.A.	 Rec/PB Mode
TP162	(HID1)	To monitor inverted HID signal at Pin 36 of IC3201 on Main C.B.A. (HID signal is inverted on Interface Board.)	 Rec/PB Mode

4.1.7. HOW TO REMOVE A JAMMED TAPE

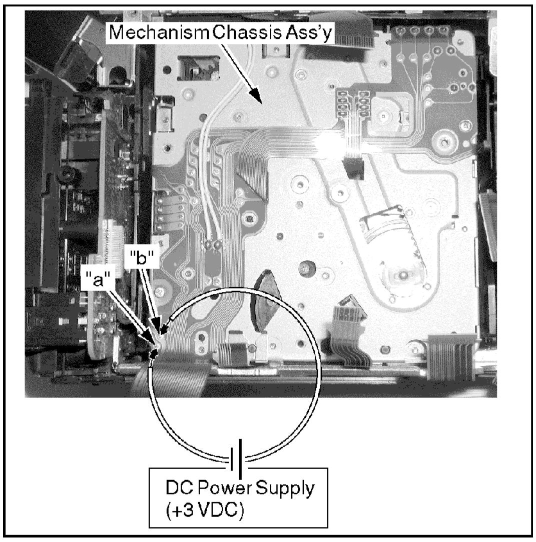
Remove a jammed tape in Electrical Method as follows:

1. **Remove the Cabinet Parts. Then, remove the 3 Screws and the Mechanism Base Unit from the Mechanism Chassis Ass'y as shown. Refer to "CABINET SECTION" & "MECHANISM SECTION" in DISASSEMBLY/ASSEMBLY PROCEDURES.**
2. **Apply +3 V DC Power Supply to the Portion "a" and "b" on the Mechanism F.P.C. Unit.**

   Note:

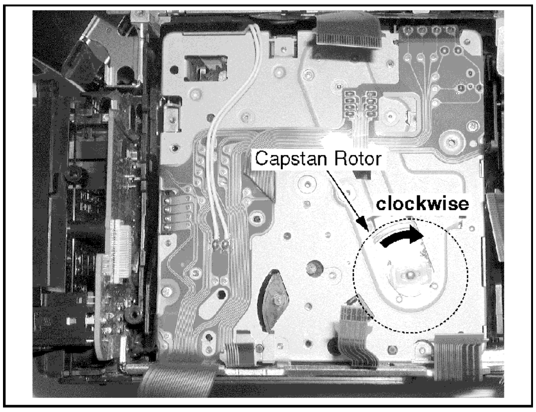
   DO NOT let eject the Garage Unit with grasping the Cassette Cover. If the Garage Unit is in the up position, a cassette tape may be damaged.

Fig. 6-1



3. **When the Mechanism is in EJECT position (snapped sound), remove the Power Supply immediately.**
4. **Rewind the tape into a cassette tape by turning the Capstan Rotor clockwise with grasping the Cassette Cover.**

Fig. 6-2



5. Take out a cassette tape from the Garage Unit.

4.1.8. EEPROM DATA

CAUTION:

Be sure to save the EEPROM data using PC-EVR Adjustment Program before service and adjustment in order to make sure to avoid an accidental data loss, etc. as follows. Refer to "SET UP OF PC-EVR ADJUSTMENT PROGRAM" in ELECTRICAL ADJUSTMENT.

EEPROM IC

C.B.A.	EEPROM IC Ref. No.
Main C.B.A.	IC6007

1.How to save the EEPROM data to your PC

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "5. Save all EEPROM data." in Read (Save)/Write All EEPROM data menu, and then press "Enter" key.
4. Input the file name, and then press the "Enter" key. The data of EEPROM IC will be stored to your PC.

2.How to write the EEPROM data which was stored in your PC to EEPROM IC

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "6. Writing from stored data files." in Read (Save)/Write All EEPROM data menu, and then press "Enter" key.
4. Input the saved file name, and then press "Enter" key. The data of

EEPROM IC will be written in EEPROM IC.

3.How to initialize the EEPROM IC

When the Main C.B.A. is replaced, be sure to write the initial data to EEPROM IC. And adjust the camcorder.

1. Start up the PC-EVR Adjustment Program.
2. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
3. Select "6. Writing from stored data files." in Read (Save)/Write All EEPROM data menu, and then press "Enter" key.
4. Input the saved file name, and then press "Enter" key. The data of EEPROM IC will be written in EEPROM IC.
   OR;
   Select "7. Writing of Initial data." and then press "Enter" key. And press "Enter" key once again.

4.How to input ID Number

The ID number is in the EEPROM.

There are two ways to write the data of EEPROM IC after replacing Main C.B.A. as follows:

- Selecting "6. Writing from stored data files," ID Number with stored data file will be written automatically.
- Selecting "7. Writing of initial data," ID Number needs to be input. There are two methods, "a" or "b," to input ID Number as follows.

a When writing ID Number from the saved data:

1. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
2. Input the saved file name, and then press "Enter" key. ID Number will be written automatically.

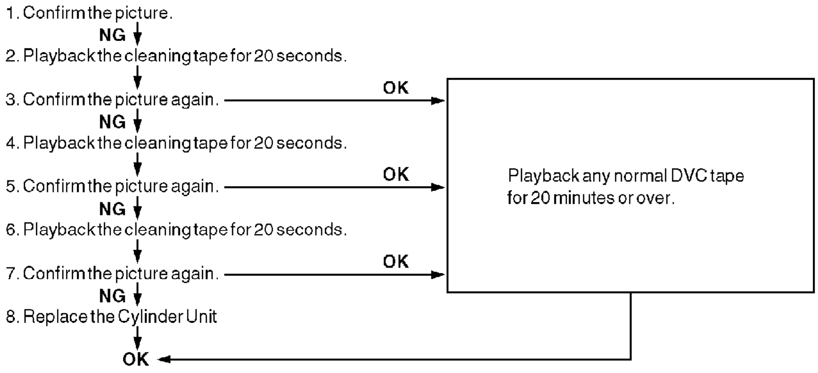
b When the original ID information can not be read because of destruction of EEPROM etc.:

1. Select "3. Read (Save)/Write All EEPROM data." in Main menu, and then press "Enter" key.
2. Select "8. Write ID from stored file." and then press "Enter" key. ID Number will be written automatically.

4.1.9. HOW TO USE THE DVC HEAD CLEANING TAPE / VFK1451

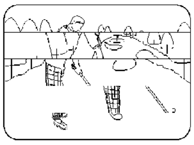
Please use the cleaning tape as described below.

Note: This cleaning tape has a total playback time of 2 minutes 30 seconds. it can be used 30 times.


1. Confirm the picture.
NG
2. Playback the cleaning tape for 20 seconds.
3. Confirm the picture again. OK
NG
4. Playback the cleaning tape for 20 seconds.
5. Confirm the picture again. OK
NG
6. Playback the cleaning tape for 20 seconds.
7. Confirm the picture again. OK
NG
8. Replace the Cylinder Unit
OK

Playback any normal DVC tape for 20 minutes or over.

The picture will look like this in case of clogged video head.



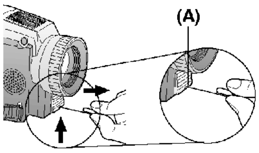
4.1.10. HOW TO REPLACE THE LAMP (LSLL0028) OF BUILT-IN LIGHT

Fig. 7

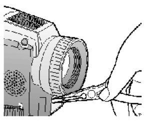
DANGER:
Use only replacement Lamp (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire.
Handle new Lamp with cloth or tissue as skin oils decrease Lamp life.
Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

Replacing the lamp

1 **Insert a rigid wire, such as an extended paper clip into point (A) and lift cover up.**

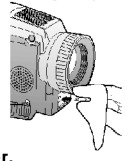


2 **Using Tweezers or needle-nose pliers, carefully remove lamp.**

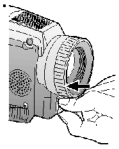


Before you begin
Set POWER to OFF.

3 **Replace lamp using a clean cloth or tissue. (Do not touch with fingers.)**



4 **Replace Light Protector.**



Note
Handle lamp gently. Excessive force may cause lamp to crack.

4.1.11. REPLACEMENT PROCEDURES FOR CSP (CHIP SIZE PACKAGE) IC

4.1.11.1. EQUIPMENT

1. Pre-Heater

2. Spot Heater

3. Vacuum Pick-up

4. P.C.B. Holder

Fig. 8-1

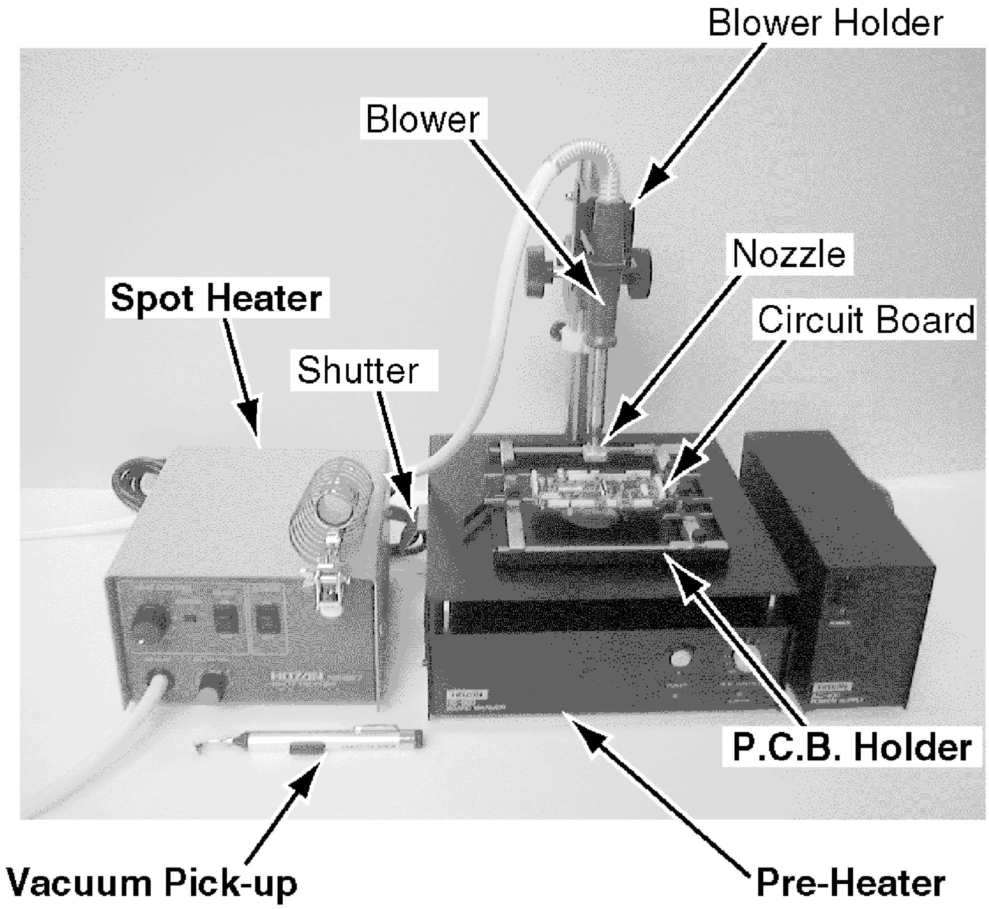
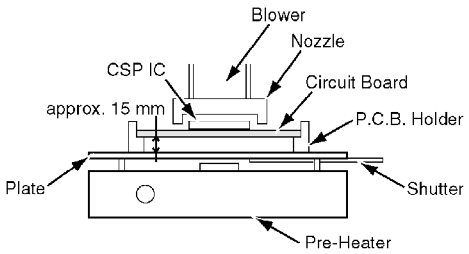
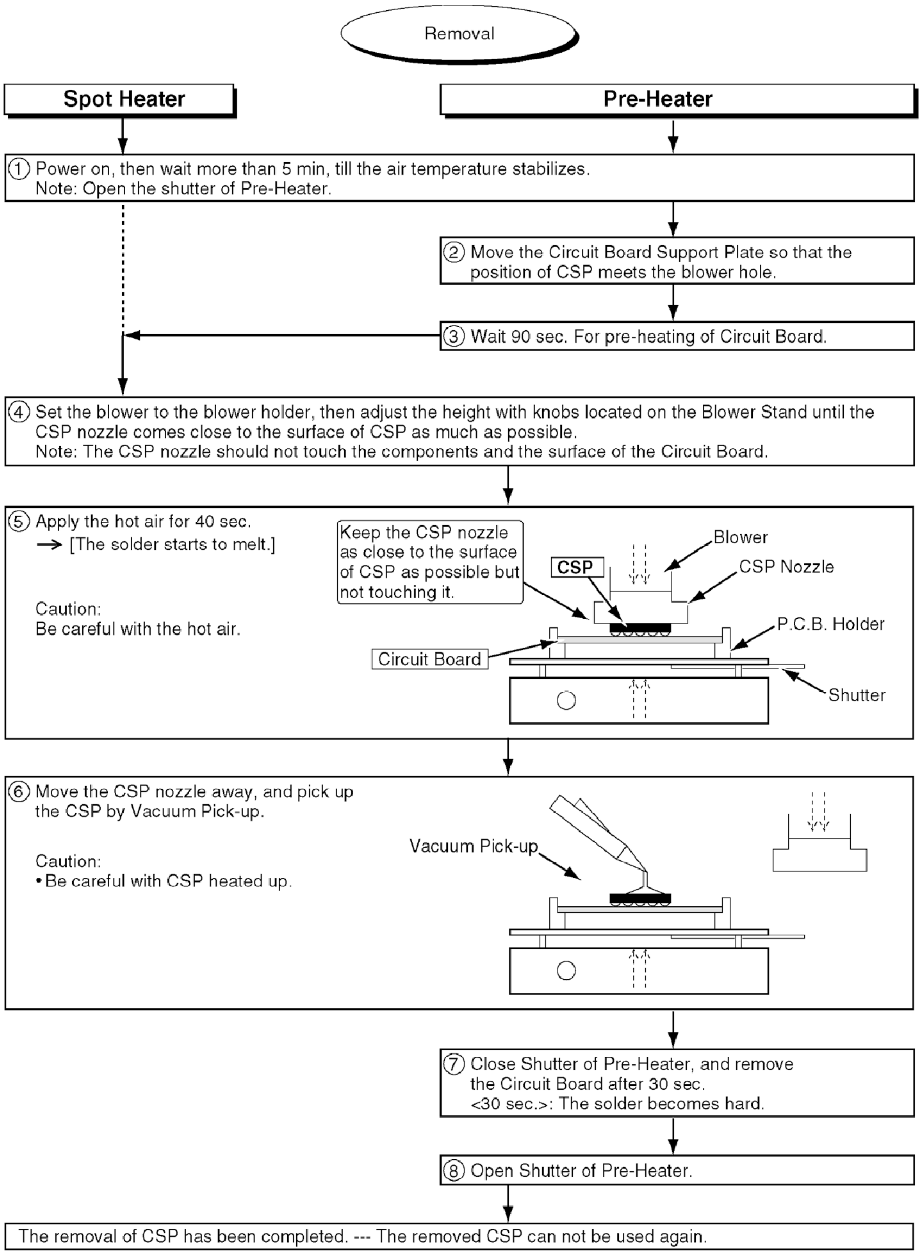

Blower Holder
Blower
Nozzle
Spot Heater
Circuit Board
Shutter
P.C.B. Holder
Vacuum Pick-up
Pre-Heater

Fig. 8-2

Fixture	Preparation for Fixture	Condition		Warming-up
		Heat Control Level	Air Control Level	
Spot Heater	Set a Nozzle to Blower of Spot Heater.	Level 8.5 (245 °C)	MAX	After setting fixtures, turn on the power. Then, wait for approx. 5 minutes to stabilize air condition. **Note:** Be sure to open the shutter of Pre-Heater.
Pre-Heater	Set the Blower to Blower Holder.	MAX (120 °C~150 °C)	---	
Reference for Temperature	 Blower Nozzle CSP IC Circuit Board approx. 15 mm P.C.B. Holder Plate Shutter Pre-Heater			

4.1.11.2. REMOVAL OF CSP IC

Fig. 8-3


Removal
Spot Heater
Pre-Heater
Keep the CSP nozzle as close to the surface of CSP as possible but not touching it.
CSP
Blower
CSP Nozzle
P.C.B. Holder
Circuit Board
Shutter
Vacuum Pick-up

① Power on, then wait more than 5 min, till the air temperature stabilizes.
Note: Open the shutter of Pre-Heater.

② Move the Circuit Board Support Plate so that the position of CSP meets the blower hole.

③ Wait 90 sec. For pre-heating of Circuit Board.

④ Set the blower to the blower holder, then adjust the height with knobs located on the Blower Stand until the CSP nozzle comes close to the surface of CSP as much as possible.
Note: The CSP nozzle should not touch the components and the surface of the Circuit Board.

⑤ Apply the hot air for 40 sec.
→ [The solder starts to melt.]

Caution:
Be careful with the hot air.

⑥ Move the CSP nozzle away, and pick up the CSP by Vacuum Pick-up.

Caution:
- Be careful with CSP heated up.

⑦ Close Shutter of Pre-Heater, and remove the Circuit Board after 30 sec.
<30 sec.>: The solder becomes hard.

⑧ Open Shutter of Pre-Heater.

The removal of CSP has been completed. --- The removed CSP can not be used again.

4.1.11.3. INSTALLATION OF CSP IC

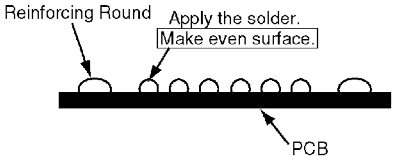
Fig. 8-4

Mounting of CSP

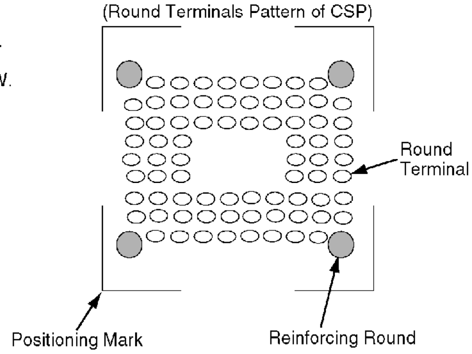
A. Cleaning

① **Applying the flux to the round terminal pattern.**
Apply the flux using an applicator, then tap it on round terminals.

② **Applying the solder to round terminals of PCB. --- [Using string solder]**
Apply the solder to the soldering iron, then move the soldering iron on the round terminals so that the solder evenly stays on the round terminals (Confirm with Loupe).
Note:
- The power of the soldering iron should be less than 30 W.
- Be sure to make all solders applied are the same in size and height.

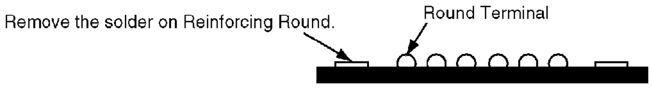

Reinforcing Round
Apply the solder.
Make even surface.
PCB

Caution:
- Do not touch the round terminals with the soldering iron. Otherwise, pattern may be damage.


(Round Terminals Pattern of CSP)
Round Terminal
Positioning Mark
Reinforcing Round

Remark:
There are 2 types of CSPs. One of them is with Reinforcing Round, and the other one is without.

③ **For CSP with Reinforcing Round —> Removing the solder on 4 corners (Reinforcing Rounds)**


Remove the solder on Reinforcing Round.
Round Terminal

④ **Cleaning of the round terminal pattern using an applicator with the cleaner (alcohol etc.).**

⑤ **Applying the flux to the round terminal pattern.**
Note: Do not let any dust get into the flux.

B. Positioning

⑥ **Check if there are solder on new CSP or not. If not, perform steps (1) ~ (4).**
Note: When applying the solder, do not touch the surface of CSP with the soldering iron.
(1) Apply enough flux to the CSP.
(2) Apply a small amount of the solder.
(3) Clean the flux once.
(4) Apply a small amount of flux to CSP.
Note: Do not apply too much the flux.

⑦ **Positioning of new CSP on the round terminal pattern.**
- Put CSP on the round terminal pattern so that 4 corners of CSP meet the positioning marks printed on PCB.

Fig. 8-5

C. Mounting

Spot Heater

Pre-Heater

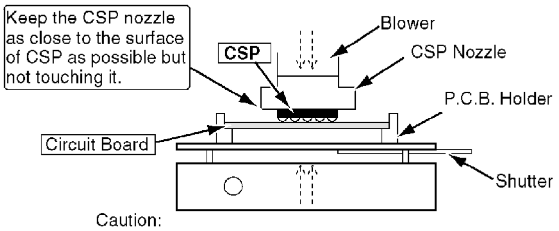
① Set the Circuit Board on Pre-Heater.
(after positioning CSP)

② Move P.C.B. Holder so that CSP position comes over the center of the blower hole.

③ Warm up the Circuit Board for 90 sec.

④ Set CSP nozzle over CSP.
The height of CSP nozzle is already adjusted during its removal.

⑤ Heat up CSP for 40 sec.
→ [Solder starts to melt.]
When the solder melts, the CSP will move slightly by itself until it sits correctly on the molten solder.



Keep the CSP nozzle as close to the surface of CSP as possible but not touching it.

Caution:
- Be careful with the hot air.
- Be carefull with any parts (connector, etc.).

⑥ Close Shutter of Pre-Heater, and remove the Circuit Board after 30 sec.
[30 sec.] --- The solder becomes hard.

Mounting of CSP is completed. → Reconfirm the mounting position with Position Mark.

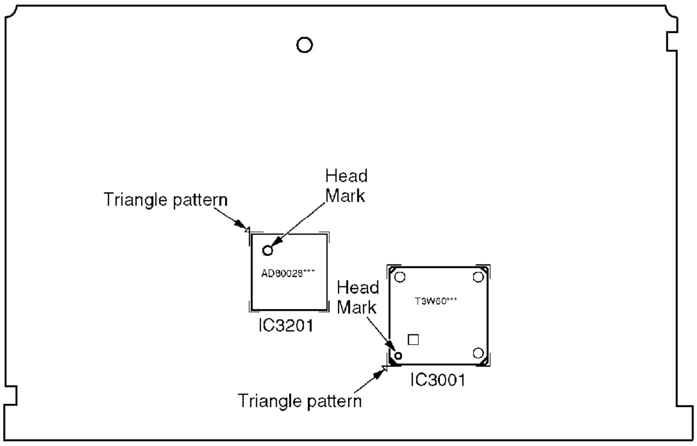
That's all for CSP repair, and the final confirmation if the repair work is OK or not should be made by assembling the repaired Circuit Board into the camera unit.

4.1.11.4. CSP IC LOCATION

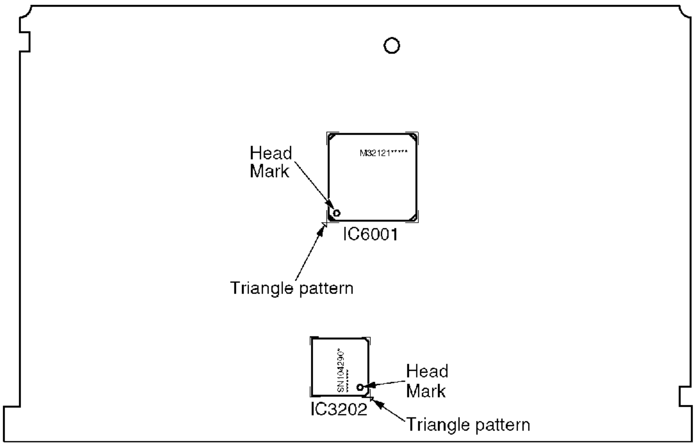
Fig. 8-6

Make sure to install CSP IC in the correct position on the Main C.B.A. as shown.

Main C.B.A.


Head
Mark
Triangle pattern
AD80028***
IC3201
Head
Mark
T3W60***
IC3001
Triangle pattern

(Component side)


Head
Mark
M32121*****
IC6001
Triangle pattern
SN104290*
Head
Mark
IC3202
Triangle pattern

(Foil side)

4.1.12. SPECIAL NOTE

All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handlings techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.

4.1.13. REPLACEMENT PROCEDURE FOR LEADLESS (CHIP) COMPONENT

The following procedures are recommended for the replacement of the leadless components used in this Unit.

1. Preparation for replacement

A. Soldering Iron

Use a pencil-type soldering iron using less than 30 watts.

B. Solder

Eutectic Solder (Tin 63 %, Lead 37 %) is recommended.

C. Soldering time

Do not apply heat for more than 4 seconds.

D. Preheating

Leadless capacitor must be preheated before installation.
(130 °C ~ 150 °C, for about 2 minutes.)

Note:

A. Leadless component must not be reused after removal.

B. Excessive mechanical stress and rubbing of the component electrode must be avoided.

2. Removing the leadless component

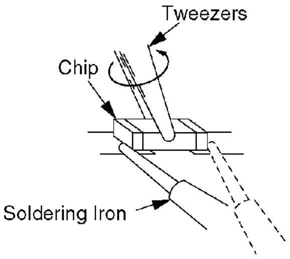
Grasp the leadless component body with tweezers and alternately apply heat to both electrodes. When the solder on both electrodes is melted, remove leadless component with a twisting motion.

Note:

A. Do not attempt to lift the component off the board until the component is completely disconnected from the board by a twisting action. The leadless component is attached to the PCB with glue. So carefully twist the component when removing it so as not to break or damage any fail under the component.

B. Take care not to break the copper foil on the printed board.

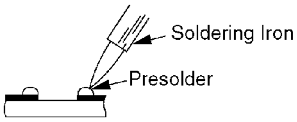
Fig. 9-1



3. Installation of the leadless component

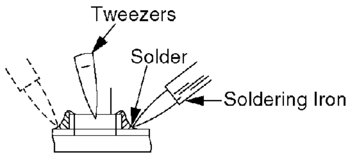
A. Presolder the contact points of the circuit board.

Fig. 9-2



B. Press the part downward with tweezers and solder both electrodes as shown below.

Fig. 9-3


Tweezers
Solder
Soldering Iron

Note:

Do not glue the replacement leadless component to the circuit board.

4.1.14. IC6001 REPLACEMENT NOTE

Two types of IC6001 (M32121FCAWG or M32121MCA123) are used on a running change basis, however IC6001 (M32121MCA123) is supplied only as a replacement part. When replacing IC6001, as in the following cases, it is necessary to replace the resistor at the same time or IC6001 may have a short life.

- **When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA123), be sure to move resistor (Ref. No. R6051) to the R6050 loacation.**

Fig. 10-1

Types of IC6001

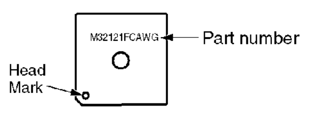
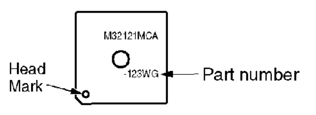
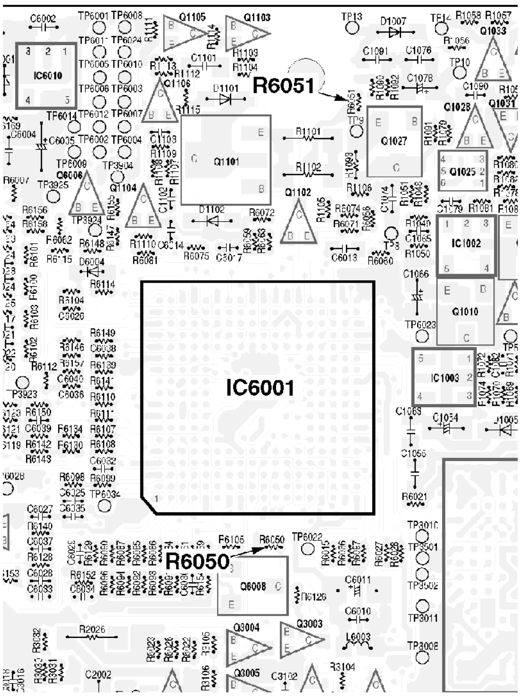
M32121FCAWG	 M32121FCAWG Part number Head Mark
M32121MCA123	 M32121MCA -123WG Part number Head Mark

Fig. 10-2



Main C.B.A. (foil side)

4.1.15. MODEL NO. IDENTIFICATION MARK

Use Marks shown in the chart below to distinguish the different models included in this Service Manual.

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
NOT USED	PT

Note:
Refer to Item 3 of Schematic Diagram Notes of Schematic Diagram and Circuit Board Layout Notes, for Mark "PT."

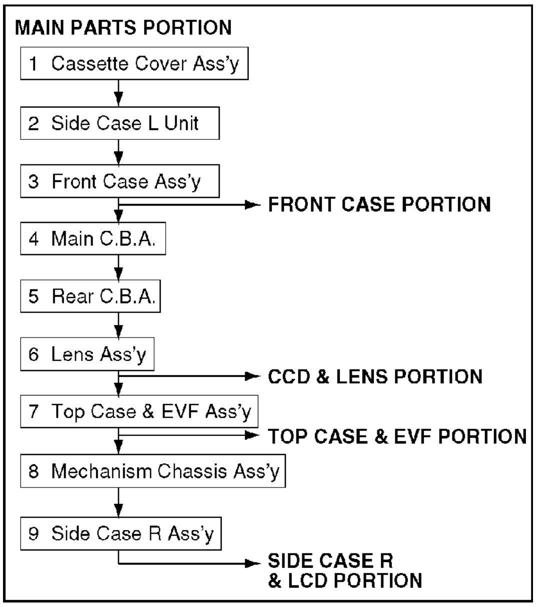
5. DISASSEMBLY/ASSEMBLY PROCEDURES

5.1. CABINET SECTION

5.1.1. DISASSEMBLY FLOWCHART

This flow chart indicates the disassembly steps of the cabinet parts and the P.C.Boards in order to gain access to item (s) to be serviced. When reassembling, perform the step (s) in the reverse order. Bend, route and dress the wires as they were originally.

Fig. D1


MAIN PARTS PORTION
1 Cassette Cover Ass'y
2 Side Case L Unit
3 Front Case Ass'y
FRONT CASE PORTION
4 Main C.B.A.
5 Rear C.B.A.
6 Lens Ass'y
CCD & LENS PORTION
7 Top Case & EVF Ass'y
TOP CASE & EVF PORTION
8 Mechanism Chassis Ass'y
9 Side Case R Ass'y
SIDE CASE R
& LCD PORTION

Note :

1. **When removing the cabinet, work with care so as not to break the Locking Tabs.**
2. **Place a cloth or some other soft material under the P.C. Boards or Unit to prevent damage.**
3. **When reinstalling, ensure that the connectors are connected and electrical components have not been damaged.**
4. **Do not supply power to the unit during disassembly and reassembly.**

5.1.2. Disassembly Method

5.2. MECHANISM SECTION

This procedure starts with the condition that the cabinet parts and Main C.B.A. have been removed.
When reassembling, perform the step(s) in the reverse order.
Perform all disassembly/reassembly and alignments procedures in STOP Position except disassembly/reassembly and alignment procedures which have the special Notes.

STEP LOC. No.	Prior Step (s)	Part	Fig. No.	Remove	Alignment /Adjustment
①	-----	Mechanism Base Unit	DM3	3(419), (506), (L-1), Grounding Plate, Hooking Portions	
②	-----	Guide Piece L	DM4	(478), (L-2)	
③	-----	Guide Piece R	DM4	(478), (L-2)	
④	2,3	Garage Unit	DM4		
⑤	-----	Cylinder Unit	DM5	3(533)	Adjustment
⑥	2,3,4	Damper Unit	DM6	(504)	
⑦	1	DEW Sensor/ DEW Cable	DM7	Unsolder	
⑧	1,7	Mechanism F.P.C. Unit	DM8	2(478), 4(L-3), Unsolder	
⑨	-----	Reduction Gear B	DM9	(477)	
⑩	2,3,4	Mechanism Cover Unit	DM10	(432), (L-4), (475)	
⑪	2,3,4,10	Idler Arm Unit	DM11		
⑫	2,3,4,10,11	Center Gear	DM11		
⑬	2,3,4	Tension Arm Unit	DM12	(477)	Adjustment
⑭	2,3,4,13	S Reel Table	DM13	(475)	
⑮	2,3,4,	T Reel Table	DM13	(475)	
⑯	-	Not used	-	-	
⑰	2,3,4	T Brake Unit	DM15	(L-5), Screw, Plate	
⑱	-	Not used	-	-	
⑲	2,3,4	Pinch Arm Unit	DM16	(473), Hooking Portions	Adjustment
⑳	5,9,13,19	Rail	DM17	(473), (L-6), 4(L-7)	
㉑	5,9,13,19,20	Cylinder Base Unit	DM18	3(432)	Adjustment
㉒	5,9,13,19,20	S Arm Unit	DM19		Gear Alignment
㉓	5,9,13,19,20,22	T Arm Unit	DM19		Gear Alignment
㉔	5,9,13,19,20,22	S Post Unit	DM19		Adjustment
㉕	5,9,13,19,20,22,23,24	T Post Unit	DM19		Adjustment
㉖	5,9,13,19,20,21,22	Loading Motor Unit	DM20	2(429)	
㉗	2,3,4,10,11,12,13,14,15	Sensor F.P.C.	DM21	2(432)	
㉘	2,3,4,10,11,12,13,14,15,27	Tension Drive Arm	DM22		
㉙	2,3,4,10,11,12,13,14,15,27,28	S Brake Drive Lever	DM22		
㉚	2,3,4,10,11,12,13,14,15,27,28,29	Cam Gear	DM23		Gear Alignment
㉛	2,3,4,10,11,12,13,14,15,19,27	Pinch Drive Arm	DM24		
㉜	2,3,4,5,9,10,11,12,13,14,15,19,20,22,23,24,25,27,28,29,30	Intermediate Gear	DM24		Gear Alignment
㉝	1,2,3,4,5,7,8,9,10,11,12,13,14,15,19,20,21,22,23,24,25,27,28,29,30	Mode Switch	DM25	(432)	Gear Alignment
㉞	1,2,3,4,7,8	MIC Switch	DM26	(432)	
㉟	2,3,4,10,11,12,13,14,15,17,19,27,28,29,30,31	Main Plate Unit	DM27		Gear Alignment
㊱	2,3,4,10,11,12,13,14,15,17,19,27,28,29,30,31,35	T4 Drive Arm	DM28		
㊲	2,3,4,10,11,12,13,14,15,17,19,27,28,29,30,31,35,36	Drive Pulley	DM29		
㊳	2,3,4,5,6,9,10,11,12,13,14,15,17,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,39	Capstan Unit	DM30	(471), 2(432)	Adjustment
㊴	2,3,4,5,6,9,10,11,12,13,14,15,17,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38	Timing Belt	DM30		
㊵	2,3,4,5,6,9,10,11,12,13,14,15,17,19,20,21,22,23,24,25,27,28,29,30,31,35,36,37,38,39	Capstan Adjust Spring	DM30		
㊶	1,2,3,4,7,8,34	Lock Lever Unit	DM31	2(473), Hooking Portion	
㊷	1,2,3,4,7,8,34,41	Lock Pick Lever	DM31		

A B C D E F

How to read chart shown above:
A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
These numbers are also used as the identification (location) No. of parts in Figures.
B: Steps to be completed prior to the current step.
C: Part to be removed or installed.
D: Fig. No. showing Procedure or Part Location.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
2(478)= 2 Screws (478), 2(L-1) =2 Looking Tabs (L-1)
F: Alignment/ Adjustment which is required when installing or replacing each parts.

CAUTION:
a. Use a wrist strap to provide ESD protection while disassembling or assembling.
b. Removed Cut Washer is not reusable. If removed, install a new one.
Following Cut Washers are to be used:

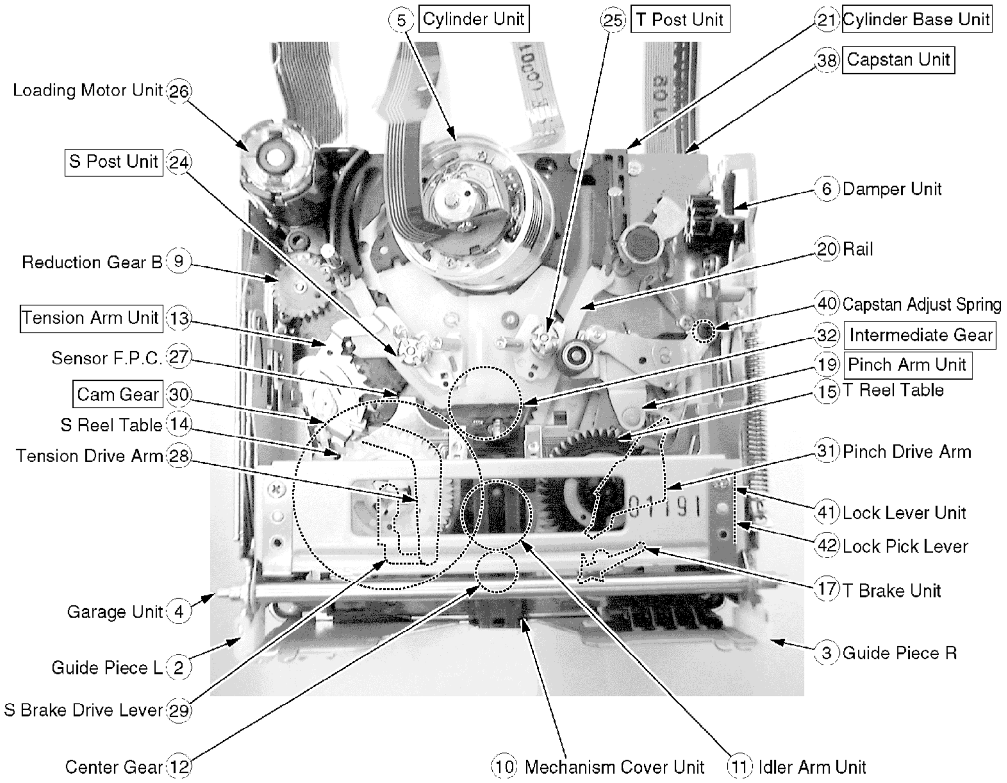
Ref. No.	Part No.
(473)	VMX2026
(475)	VMX2750
(477)	VMX2028

5.2.1. Inner Parts Location

Note: BOX indicates alignment (Gear alignment or Tape Path Alignment with L.I.S.T.A.) required when a part is replaced.

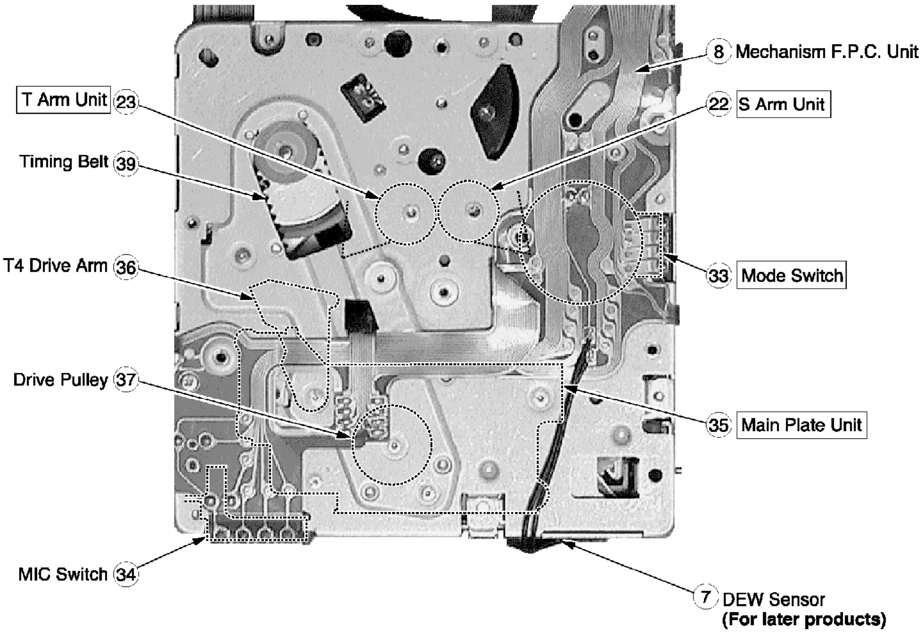
5.2.1.1. TOP VIEW

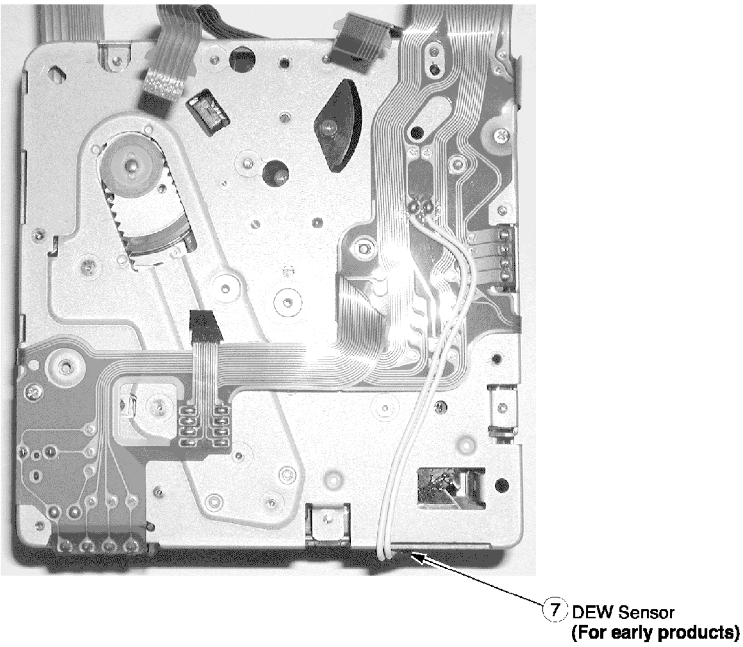
Fig. DM1-1


⑤ Cylinder Unit
㉕ T Post Unit
㉑ Cylinder Base Unit
㊳ Capstan Unit
Loading Motor Unit ㉖
S Post Unit ㉔
⑥ Damper Unit
Reduction Gear B ⑨
⑳ Rail
Tension Arm Unit ⑬
㊵ Capstan Adjust Spring
Sensor F.P.C. ㉗
㉜ Intermediate Gear
⑲ Pinch Arm Unit
Cam Gear ㉚
⑮ T Reel Table
S Reel Table ⑭
Tension Drive Arm ㉘
㉛ Pinch Drive Arm
㊶ Lock Lever Unit
㊷ Lock Pick Lever
⑰ T Brake Unit
Garage Unit ④
③ Guide Piece R
Guide Piece L ②
S Brake Drive Lever ㉙
Center Gear ⑫
⑩ Mechanism Cover Unit
⑪ Idler Arm Unit

5.2.1.2. BOTTOM VIEW

Fig. DM1-2

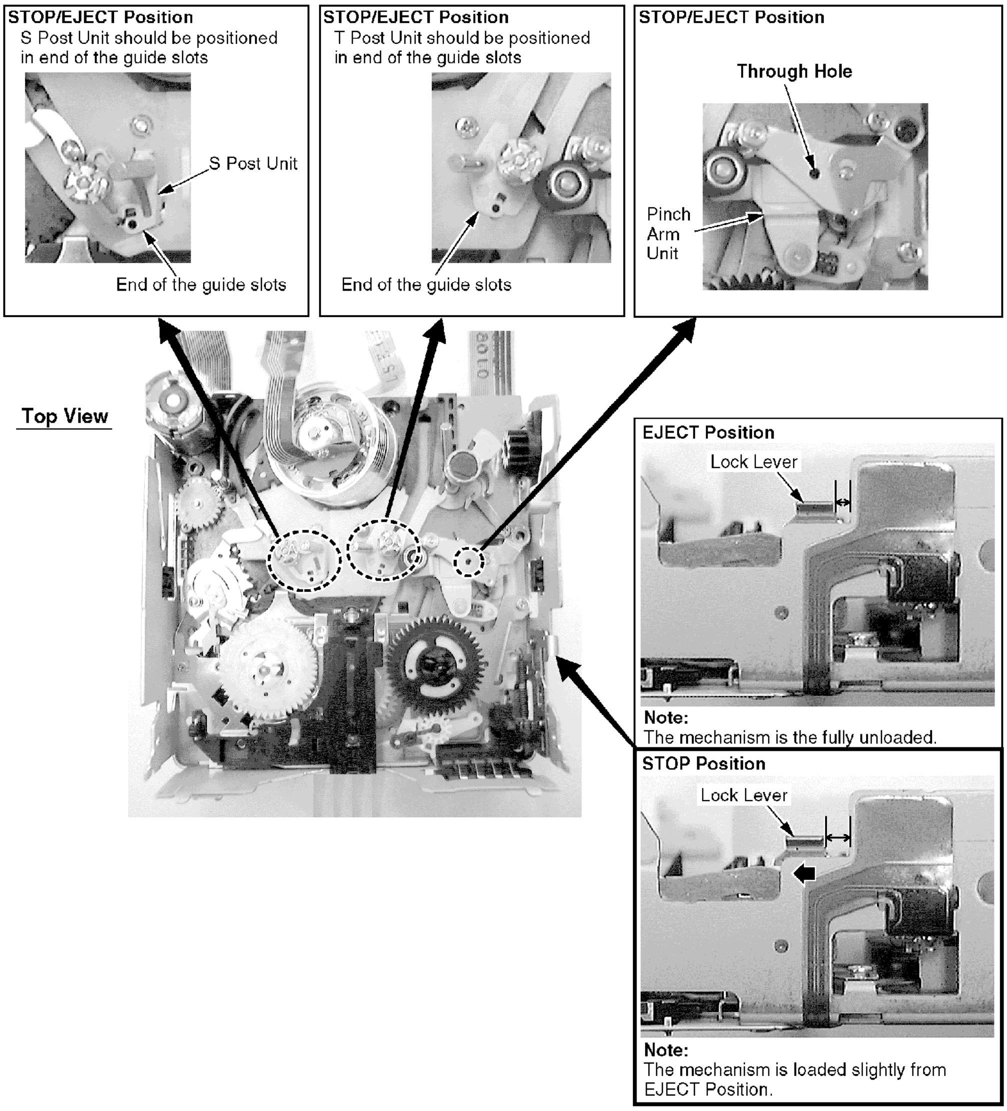

⑧ Mechanism F.P.C. Unit
T Arm Unit ㉓
㉒ S Arm Unit
Timing Belt ㊴
T4 Drive Arm ㊱
㉝ Mode Switch
Drive Pulley ㊲
㉟ Main Plate Unit
MIC Switch ㉞
⑦ DEW Sensor
(For later products)


⑦ DEW Sensor
(For early products)

5.2.2. STOP Position Confirmation

Check the following points to confirm that the Mechanism is in STOP Position from the top side.

Fig. DM2


Top View
S Post Unit
End of the guide slots
End of the guide slots
Through Hole
Pinch Arm Unit
Lock Lever
Lock Lever

STOP/EJECT Position
S Post Unit should be positioned in end of the guide slots

STOP/EJECT Position
T Post Unit should be positioned in end of the guide slots

STOP/EJECT Position

EJECT Position

Note:
The mechanism is the fully unloaded.

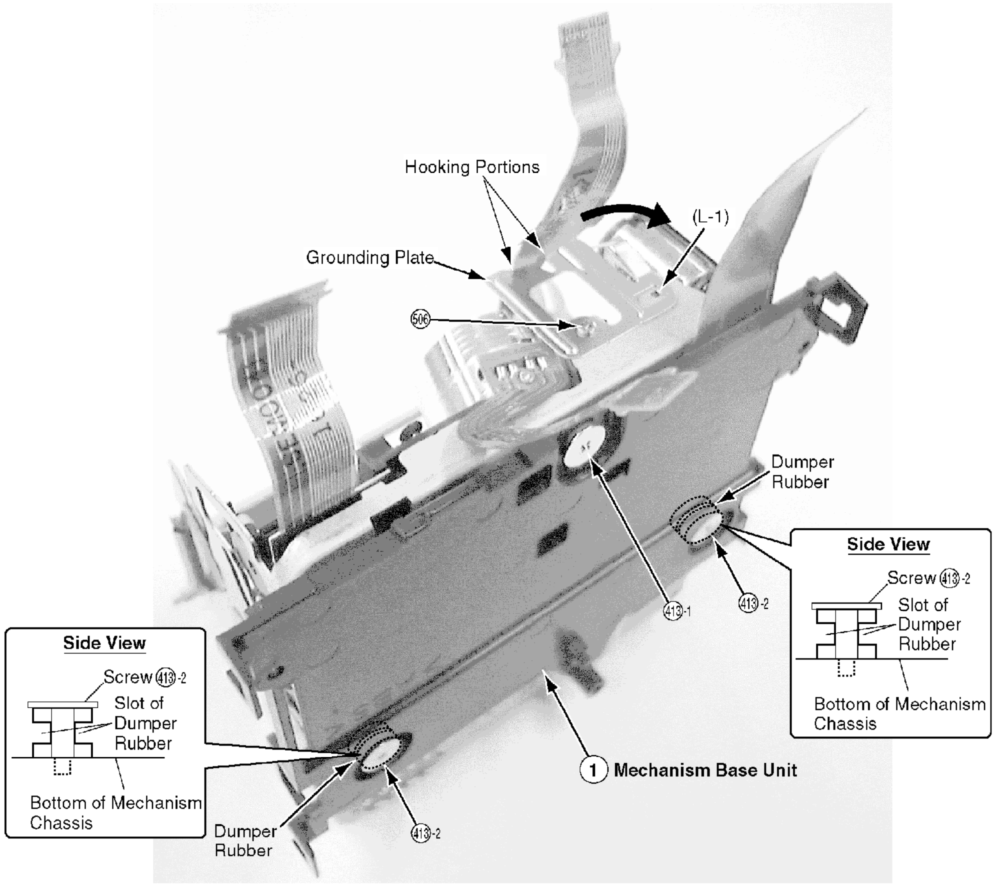
STOP Position

Note:
The mechanism is loaded slightly from EJECT Position.

Perform all disassembly/reassembly and alignments procedures in STOP Position except disassembly/reassembly and alignment procedures which have the special notes.

5.2.3. Mechanism Base Unit

Fig. DM3


Hooking Portions
(L-1)
Grounding Plate
(506)
Dumper Rubber
Side View
Screw (413)-2
Slot of Dumper Rubber
Bottom of Mechanism Chassis
(413)-1
(413)-2
Side View
Screw (413)-2
Slot of Dumper Rubber
Bottom of Mechanism Chassis
① Mechanism Base Unit
Dumper Rubber
(413)-2

Disassembly Notes:

1. Use extreme care when removing the Grounding Plate. Do not touch the Video Heads during servicing.
2. When removing the Grounding Plate from the Mechanism Chassis, turn it as indicated by the arrow.

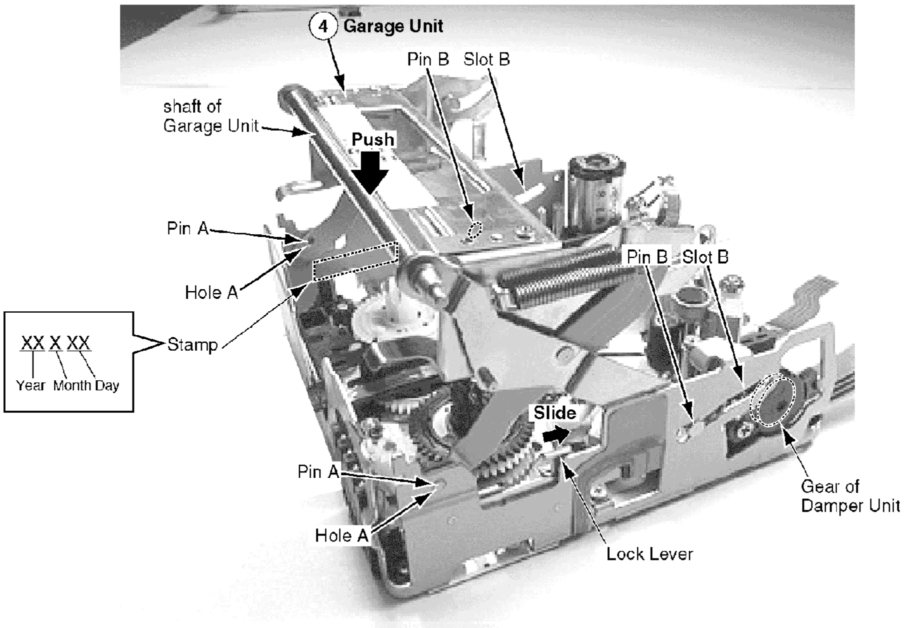
Reassembly Notes:

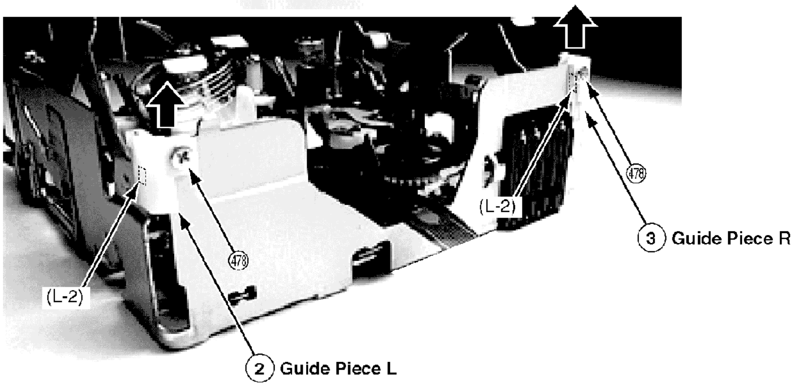
1. **Installation of Mechanism Base Unit**

1) Install the 2 Screws (413)-2 on the Mechanism Chassis.
2) Then, install the Mechanism Base Unit so that it slide to slots of the Dumper Rubber.
3) Then, install a Screw (413)-1.

5.2.4. Guide Piece L, Guide Piece R, Garage Unit

Fig. DM4


④ Garage Unit
Pin B
Slot B
shaft of Garage Unit
Push
Pin A
Hole A
XX X XX
Year
Month
Day
Stamp
Pin B
Slot B
Slide
Pin A
Hole A
Gear of Damper Unit
Lock Lever


(478)
(L-2)
③ Guide Piece R
(478)
(L-2)
② Guide Piece L

Disassembly Notes:
1. Before removing the Garage Unit, eject the Garage Unit by sliding the Lock Lever to the direction of the arrow.
2. When removing the Garage Unit, pull 2 Pin A from 2 Hole A, and then pull 2 Pin B from 2 Slot B.

Reassembly Notes:

1. Installation of Garage Unit

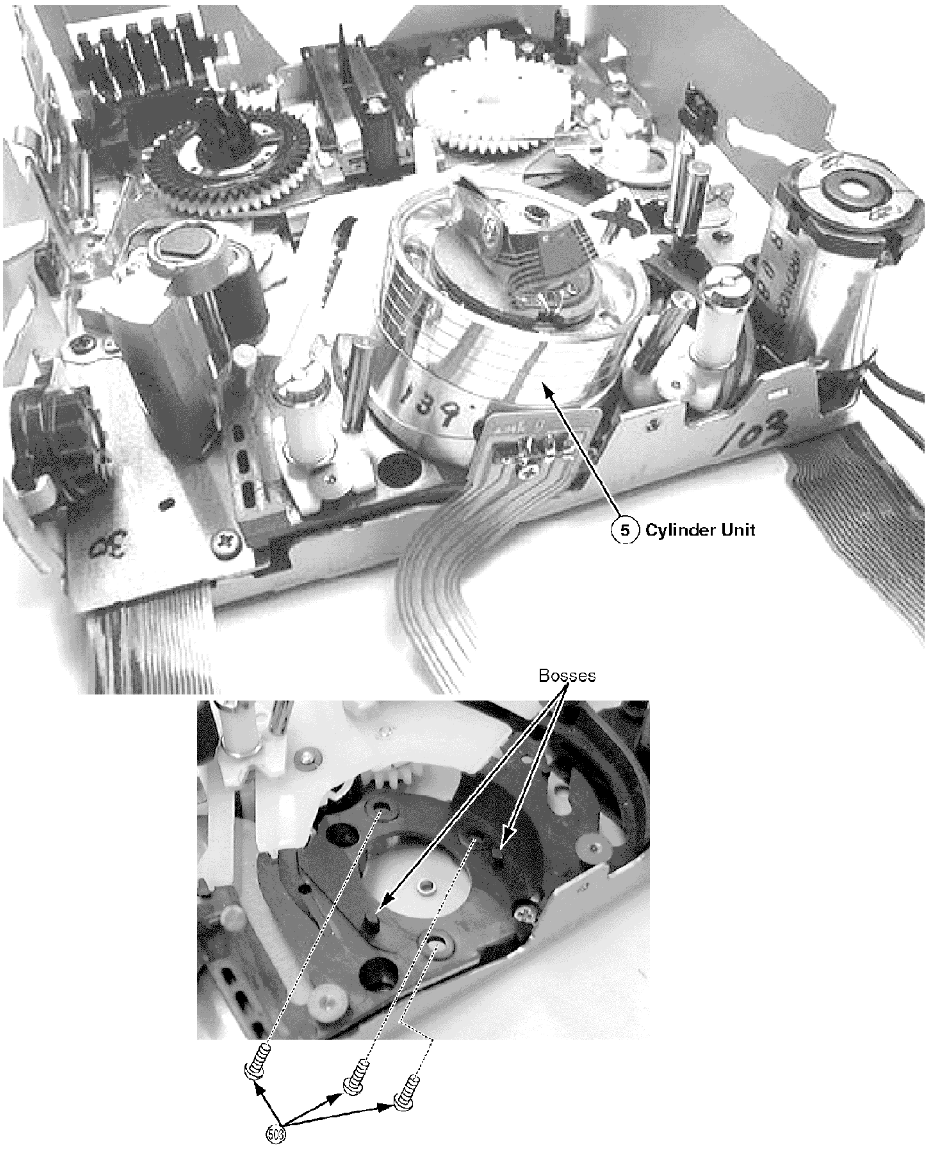
1) Install the Garage Unit so that 2 Pin B of Garage Unit are inserted to 2 Slot B on chassis.
2) Insert the 2 Pin A to 2 Hole A on chassis.

CAUTION:

When making the Garage Unit in the down position, be sure to push the shaft of Garage Unit as shown. Otherwise, the Garage Unit may be damaged.

5.2.5. Cylinder Unit

Fig. DM5



Disassembly Notes:

1. Use extreme care when removing or replacing the Cylinder Unit. Do not touch the Video Heads during servicing. Use extreme care to handle the Cylinder Unit.

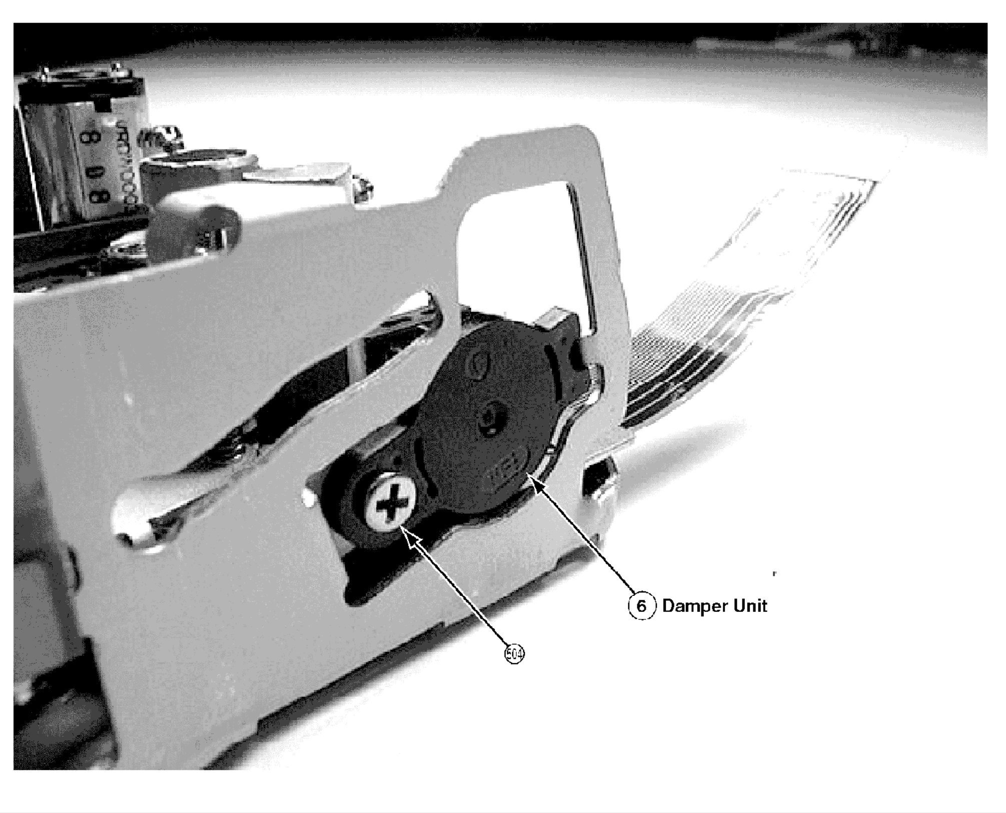
Reassembly Notes:

1. Installation of Cylinder Unit

1) Install the Cylinder Unit so that 2 Holes on the Cylinder Unit surface fit over the 2 Bosses on the Chassis. Then, tighten 3 Screws (503).

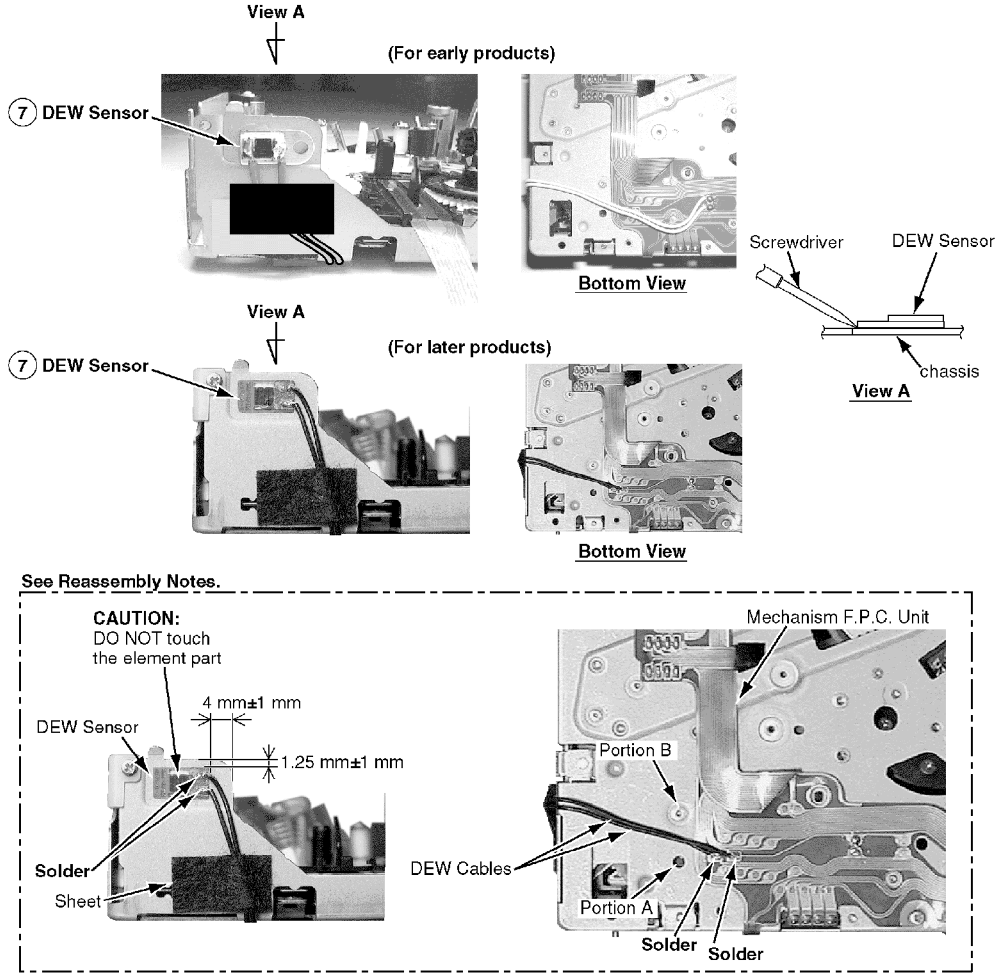
5.2.6. Dumper Unit

Fig. DM6


6 Damper Unit
504

5.2.7. DEW Sensor, DEW Cable

Fig. DM7


View A
(For early products)
⑦ DEW Sensor
Bottom View
Screwdriver
DEW Sensor
chassis
View A
View A
(For later products)
⑦ DEW Sensor
Bottom View
See Reassembly Notes.
CAUTION:
DO NOT touch
the element part
4 mm±1 mm
DEW Sensor
1.25 mm±1 mm
Solder
Sheet
Mechanism F.P.C. Unit
Portion B
DEW Cables
Portion A
Solder
Solder

Disassembly Notes:

1. When removing the DEW Sensor, remove it using a screwdriver etc. as shown.

Reassembly Notes:

1. Installation of DEW Sensor, DEW Cables

The DEW Sensor or the DEW Cables is supplied separately as replacement parts. When replacing the DEW Sensor **in early products**, be sure to replace both the DEW Sensor and the DEW Cables.

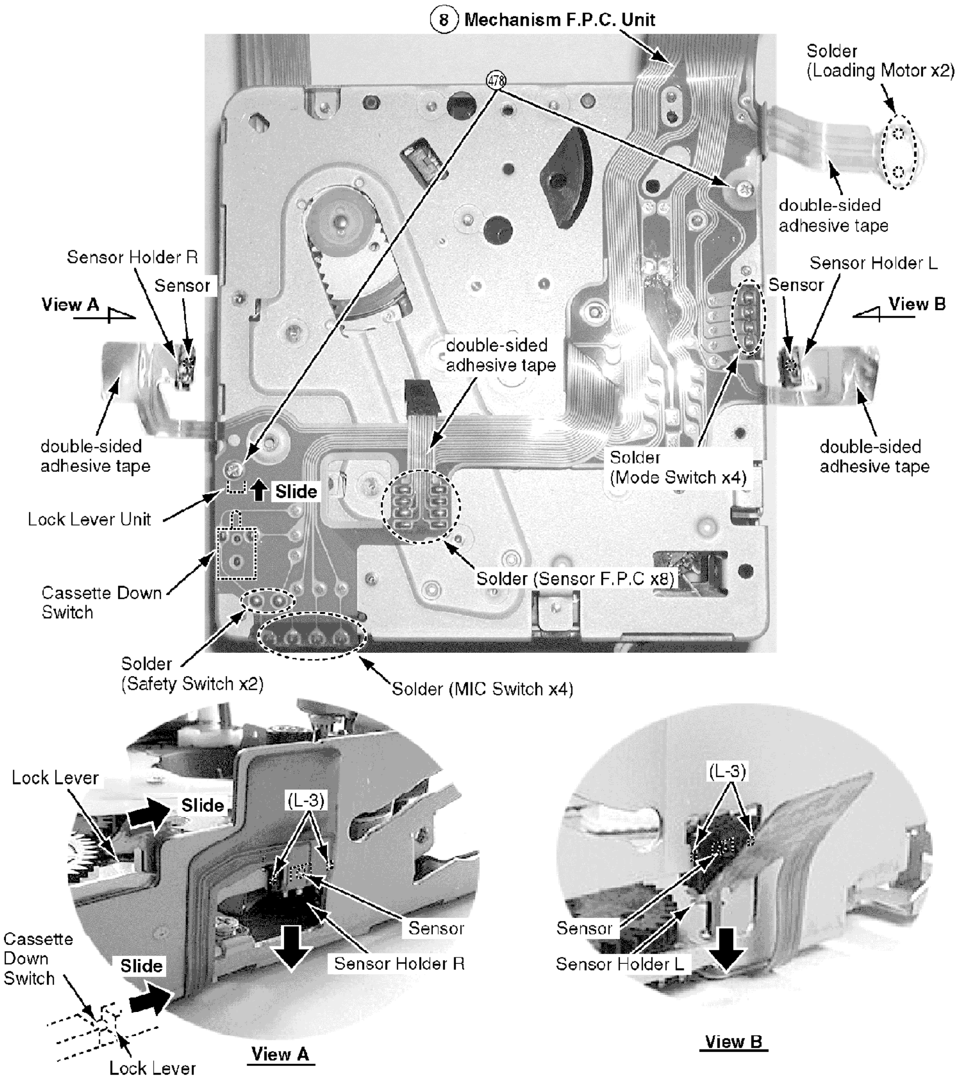
DO NOT touch the element part on DEW Sensor when installing it.

1) Put the DEW Sensor on chassis with adhesive securely, and solder the DEW Cables on the DEW Sensor as shown.

2) Shape the DEW Cables between Portion A and Portion B on the bottom of Mechanism. Then, solder it on the Mechanism F.P.C. Unit no more than 320 °C for less than 3 seconds as shown.

5.2.8. Mechanism F.P.C. Unit

Fig. DM8


⑧ Mechanism F.P.C. Unit
Solder
(Loading Motor x2)
478
double-sided
adhesive tape
Sensor Holder R
Sensor
View A
Sensor Holder L
Sensor
View B
double-sided
adhesive tape
double-sided
adhesive tape
double-sided
adhesive tape
Solder
(Mode Switch x4)
Lock Lever Unit
Slide
Cassette Down
Switch
Solder (Sensor F.P.C x8)
Solder
(Safety Switch x2)
Solder (MIC Switch x4)
Lock Lever
Slide
(L-3)
Sensor
Sensor Holder R
Cassette
Down
Switch
Slide
Lock Lever
View A
(L-3)
Sensor
Sensor Holder L
View B

Disassembly Notes:

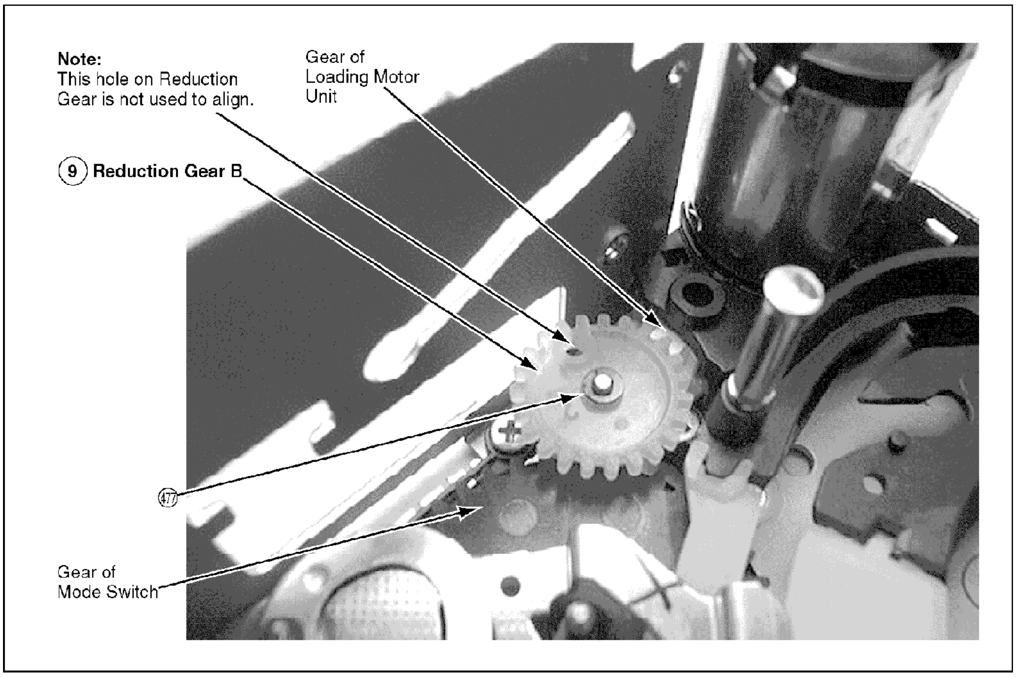
1. DO NOT touch the Sensor on Sensor Holder Unit when removing.
2. When removing the Sensor Holder L & R, slide the Sensor Holder Unit as indicated by the arrow while releasing the 4 Locking Tabs (L-3).

Reassembly Notes:

1. Before installing the Mechanism F.P.C. Unit, confirm that the Lock Lever is slid as indicated by the arrow and held as shown. Otherwise, the Lock Lever may damage the Cassette Down Switch.
2. Solder the points on Sensor F.P.C. x8, MIC Switch x4, Mode Switch x4, Safety Switch x2, and Loading Motor x2 no more than 310 °C for less than 2 seconds when soldering.
3. When installing the Mechanism F.P.C. Unit, secure the Sensor Holder L & R with the 4 Locking Tabs (L-3), and then put with double-sided adhesive tape.

5.2.9. Reduction Gear B

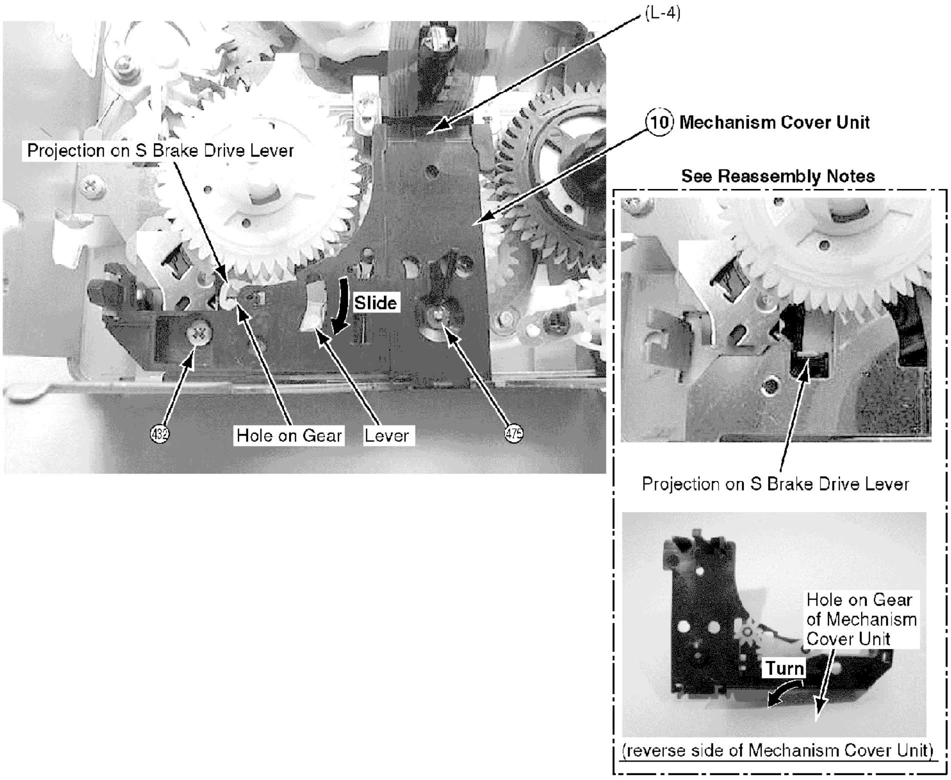
Fig. DM9


Note:
This hole on Reduction Gear is not used to align.

Gear of Loading Motor Unit
⑨ Reduction Gear B
477
Gear of Mode Switch

5.2.10. Mechanism Cover Unit

Fig. DM10


(L-4)
⑩ Mechanism Cover Unit
See Reassembly Notes
Projection on S Brake Drive Lever
Slide
432
Hole on Gear
Lever
475
Projection on S Brake Drive Lever
Hole on Gear of Mechanism Cover Unit
Turn
(reverse side of Mechanism Cover Unit)

Disassembly Notes:

1. Before removing, slide the Lever as indicated by the arrow as shown.

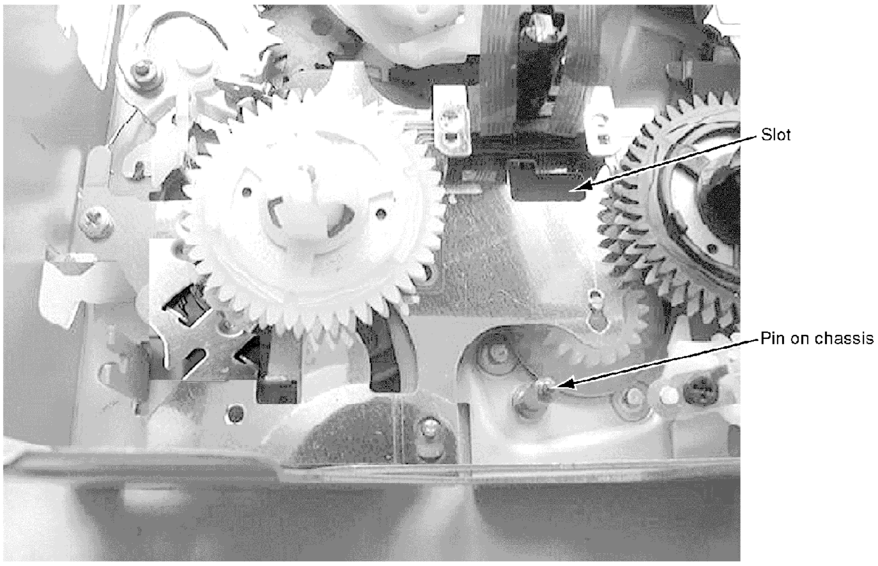
Reassembly Notes:

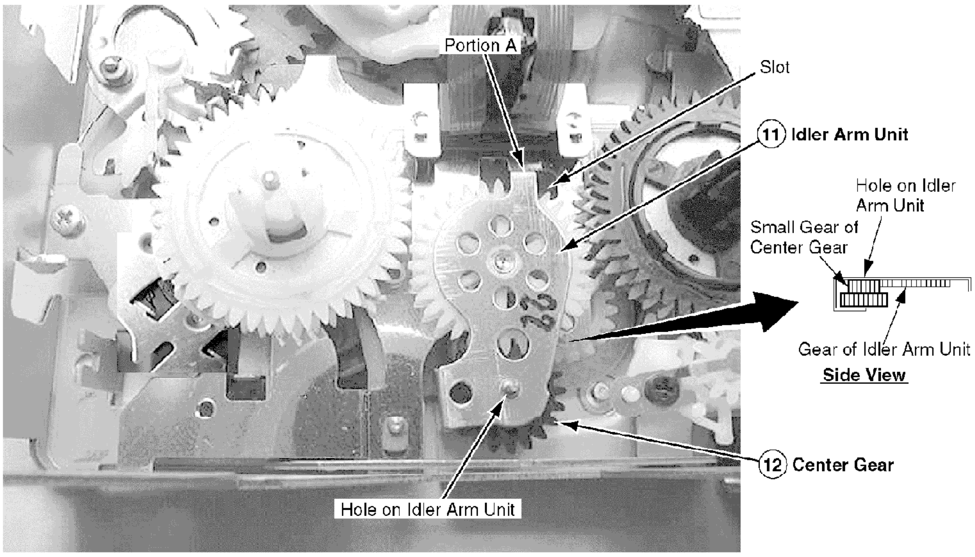
1. Installation of Mechanism Cover Unit

1) Before installing, place the Mechanism in STOP Position by rotating the Mode Switch.
2) Turn the Gear on reverse side of Mechanism Cover Unit counterclockwise as shown.
3) Install the Mechanism Cover Unit so that the Projection on S Brake Drive Lever inserts to Hole on Gear of Mechanism Cover Unit.

5.2.11. Idler Arm Unit, Center Gear

Fig. DM11


Slot
Pin on chassis


Portion A
Slot
11 Idler Arm Unit
Hole on Idler Arm Unit
Small Gear of Center Gear
Gear of Idler Arm Unit
Side View
12 Center Gear
Hole on Idler Arm Unit

Disassembly Notes:

1. When removing the Idler Arm Unit, remove both of Idler Arm Unit and Center Gear together.

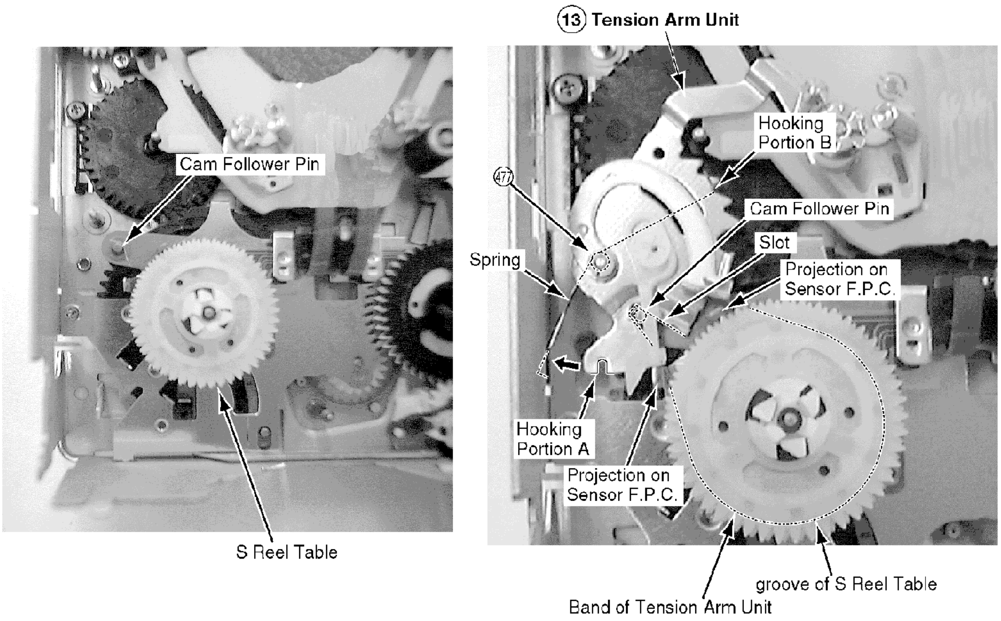
Reassembly Notes:

1. Installation of Idler Arm Unit and Center Gear

1) Set the Center Gear into Idler Arm Unit so that Hole on Idler Arm Unit are Through Holes. Confirm that the Small Gear of Center Gear engages with Gear of Idler Arm Unit.
2) Install Both of them together so that Pin on chassis is inserted to Hole on Idler Arm Unit, and Portion A is in Slot.

5.2.12. Tension Arm Unit

Fig. DM12


⑬ Tension Arm Unit
Cam Follower Pin
S Reel Table
Hooking Portion B
㊼
Cam Follower Pin
Spring
Slot
Projection on Sensor F.P.C.
Hooking Portion A
Projection on Sensor F.P.C.
groove of S Reel Table
Band of Tension Arm Unit

Disassembly Notes:

1. Work carefully so as not to damage the Band of Tension Arm Unit when removing.

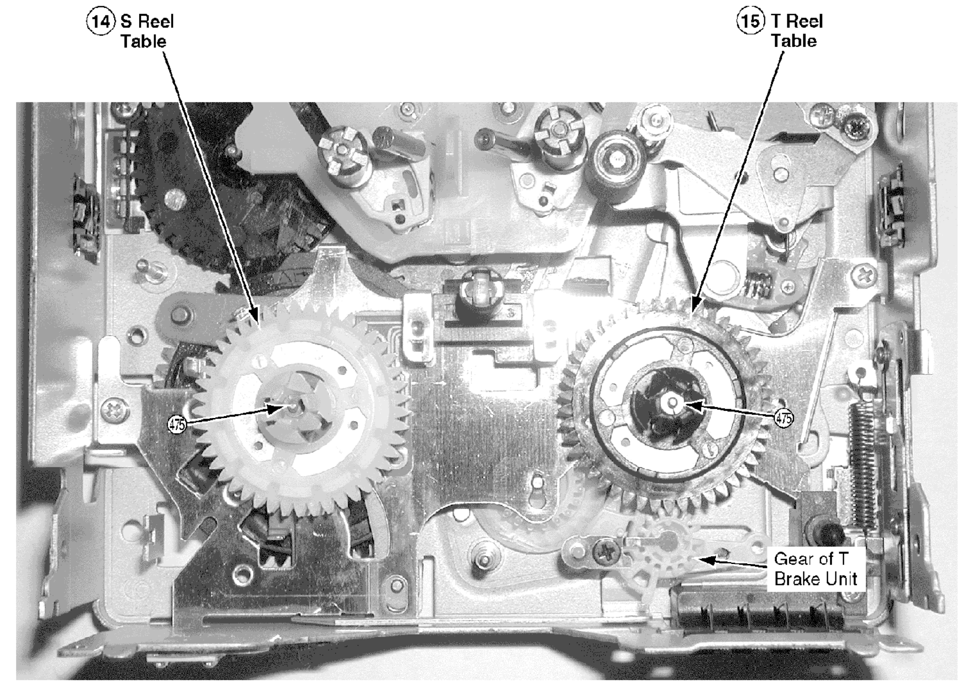
Reassembly Notes:

1. Installation of Tension Arm Unit

1) Before installing the Tension Arm Unit, place the Mechanism in STOP Position by rotating the Mode Switch, and then hook the Spring of Tension Arm Unit to Hooking Portion A and Hooking Portion B.
2) Install the Tension Arm Unit while hooking the Band of Tension Unit to groove of S Reel Table.
3) Confirm that Band of Tension Arm Unit and Projection on Sensor F.P.C. are in the correct position, and that Cam follower Pin is set into Slot of Tension Arm Unit.
4) After installing the Tension Arm Unit, unhook the Spring from Portion A, and then confirm that the Spring is in the lower position than Sensor F.P.C.

5.2.13. S Reel Table, T Reel Table

Fig. DM13


⑭ S Reel Table
⑮ T Reel Table
475
475
Gear of T Brake Unit

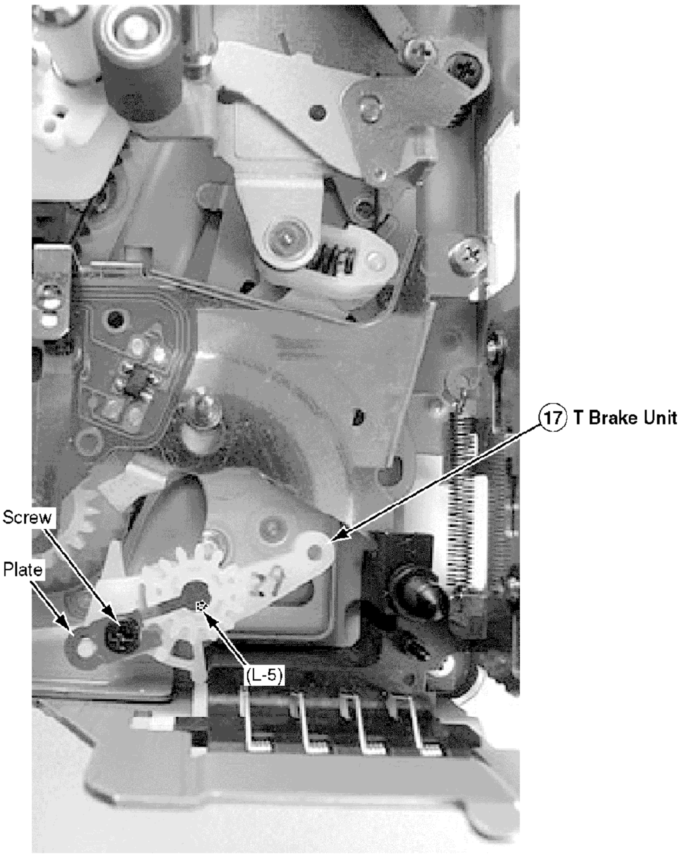
Reassembly Notes:

1. Installation of S Reel Table and T Reel Table

1) Confirm that the Gear of T Reel Table engages with the Gear of T Brake Unit.

5.2.14. T Break Unit

Fig. DM15



Disassembly Notes:

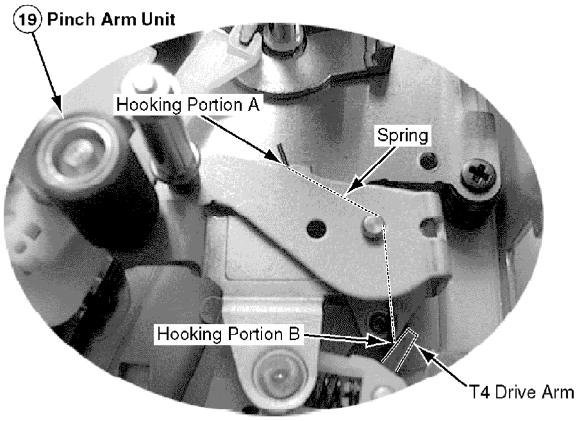
1. When removing the T Brake Unit, remove a Screw and the Plate. Then, remove the T Brake Unit while releasing the Locking Tab (L-5).
2. Use extreme care when removing the T Brake Unit.
   If Locking Tab (L-5) is broken, install a new T Brake Unit.

Reassembly Notes:

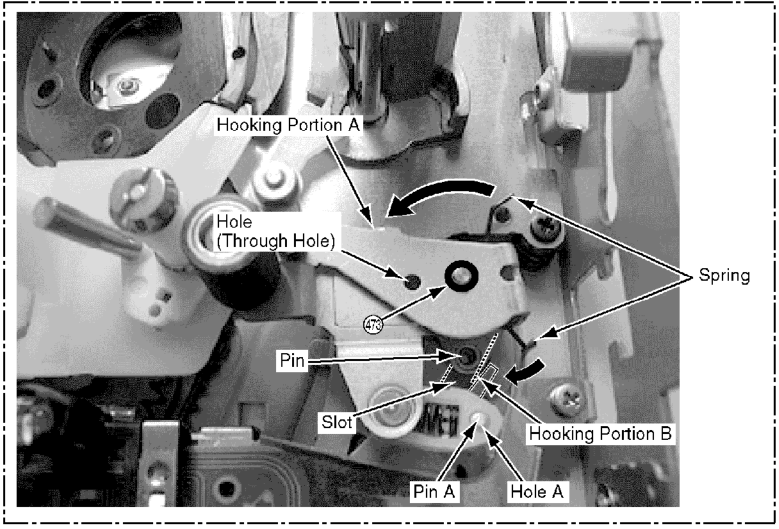
1. When installing the T Brake Unit, DO NOT apply pressure to T Brake Unit Plate.

5.2.15. Pinch Arm Unit

Fig. DM16


⑲ Pinch Arm Unit
Hooking Portion A
Spring
Hooking Portion B
T4 Drive Arm

See Reassemly Notes.


Hooking Portion A
Hole
(Through Hole)
Spring
(473)
Pin
Slot
Hooking Portion B
Pin A
Hole A

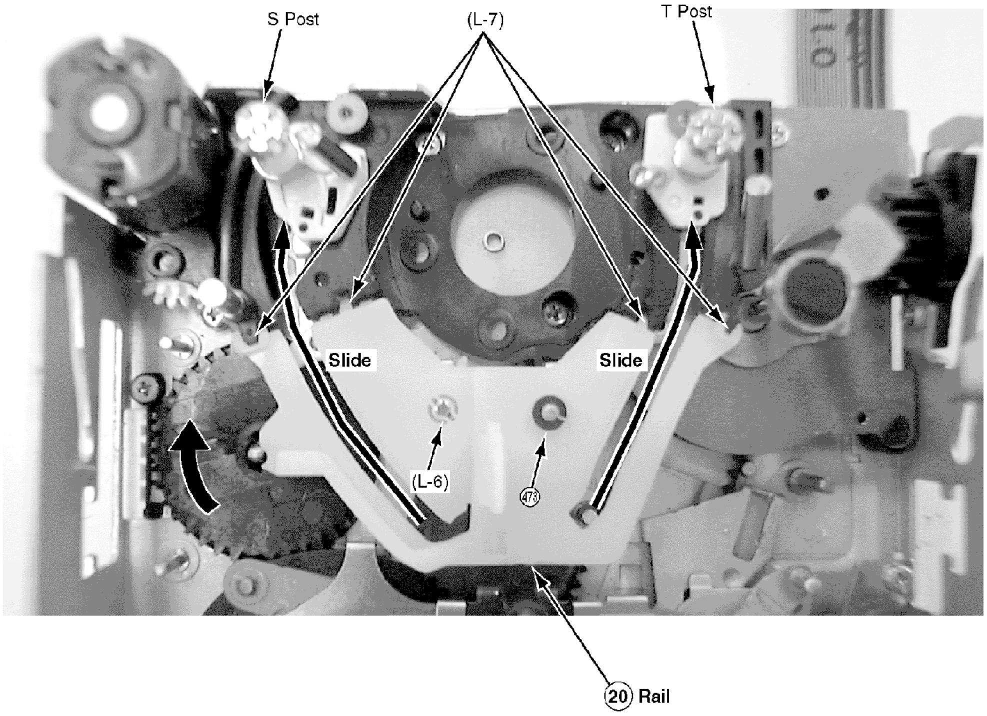
Reassembly Notes:

1. Installation of Pinch Arm Unit

1) Before installing, place the Mechanism in STOP Position by rotating the Mode Switch counterclockwise fully.
2) Install the Pinch Arm Unit so that Pin of Pinch Arm Unit is in Slot and that Pin A is inserted to Hole A on Pinch Arm Unit. (The holes on Pinch Arm Unit are Through Hole.)
3) Hook the Spring to Hooking Portion A, and then to Hooking Portion B of T4 Drive Arm.

5.2.16. Rail

Fig. DM17


S Post
(L-7)
T Post
Slide
Slide
(L-6)
473
20 Rail

Disassembly Notes:

1. Before removing the Rail, slide the S & T Posts by rotating the Mode Switch clockwise.
2. When removing the Rail, release the Locking Tab (L-6) first so as not to damage the 4 Locking Tabs (L-7).

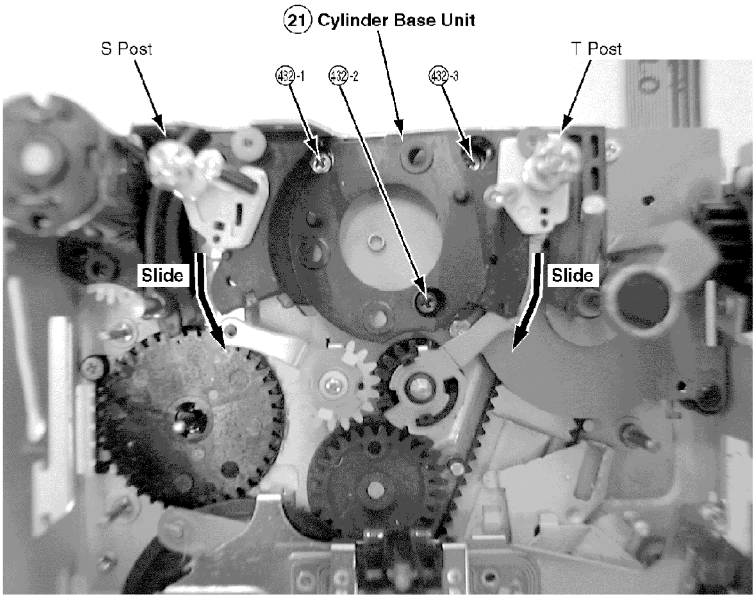
Reassembly Notes:

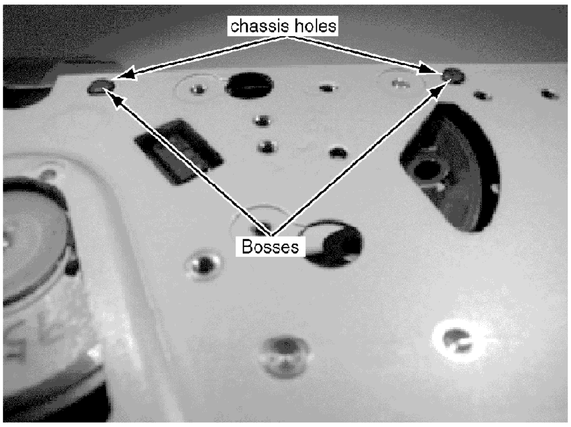
1. Installation of Rail

1) Set 4 Locking Tabs (L-7), and then push down the Rail to set Locking Tab (L-6) firmly.

5.2.17. Cylinder Base Unit

Fig. DM18


㉑ Cylinder Base Unit
S Post
T Post
(432)-1
(432)-2
(432)-3
Slide
Slide


chassis holes
Bosses

Disassembly Notes:

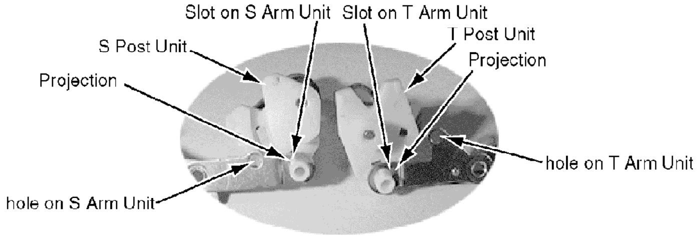
1. Slide the S & T Posts as indicated by the arrow.

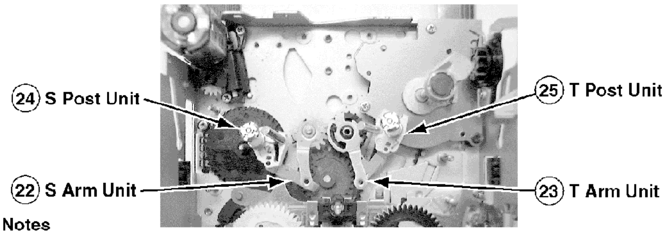
Reassembly Notes:

1. Before installing the Cylinder Base Unit, confirm that the S & T Posts are lowered.
2. When installing, tighten 3 Screws (432)-1, (432)-2 and (432)-3 in order.
3. After installing, slide the S & T Posts to insert the groove of Cylinder Base Unit.

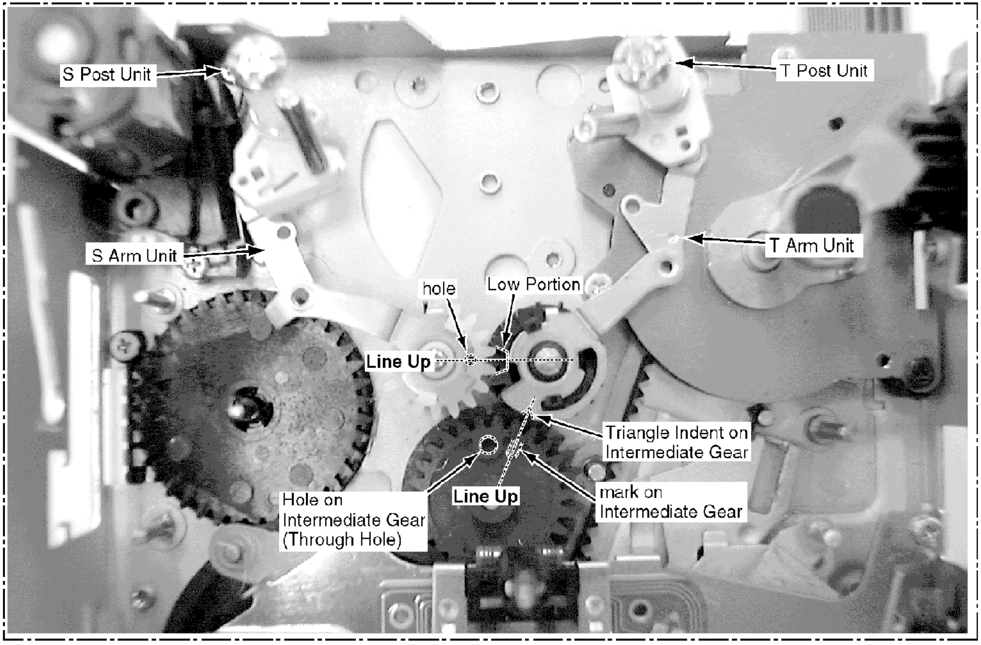
5.2.18. S & T Arm Unit, S & T Post Unit

Fig. DM19


Slot on S Arm Unit
Slot on T Arm Unit
S Post Unit
T Post Unit
Projection
Projection
hole on T Arm Unit
hole on S Arm Unit


㉔ S Post Unit
㉕ T Post Unit
㉒ S Arm Unit
㉓ T Arm Unit

See Reassembly Notes


S Post Unit
T Post Unit
S Arm Unit
T Arm Unit
hole
Low Portion
Line Up
Triangle Indent on Intermediate Gear
Line Up
Hole on Intermediate Gear (Through Hole)
mark on Intermediate Gear

Disassembly Notes:

1. When removing the S & T Post Unit, pass the Projections from each slots on S & T Arm Unit.

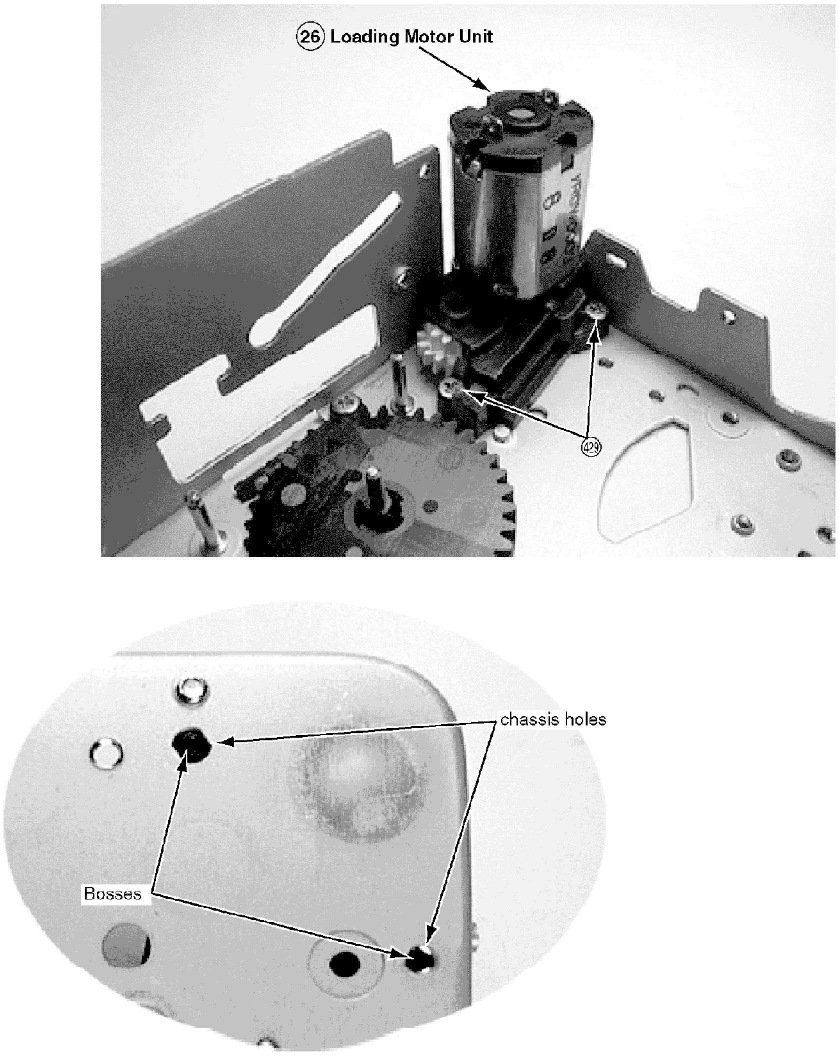
Reassembly Note:

1. Alignment/Installation of S & T Post Unit, S & T Arm Unit

1) Install the S Arm Unit to the S Post Unit while passing the Projection.
2) Install the T Arm Unit to the T Post Unit while passing the Projection.
3) Confirm that the hole on Intermediate Gear is aligned with the hole on chassis (Through Hole).
4) Install both the T Post Unit and the T Arm Unit so that the Triangle Indent on T Arm Unit is aligned with the mark on Intermediate Gear.
5) Install both the S Post Unit and the S Arm Unit so that the hole on the S Arm Unit is aligned with Low Portion of T Arm Unit.

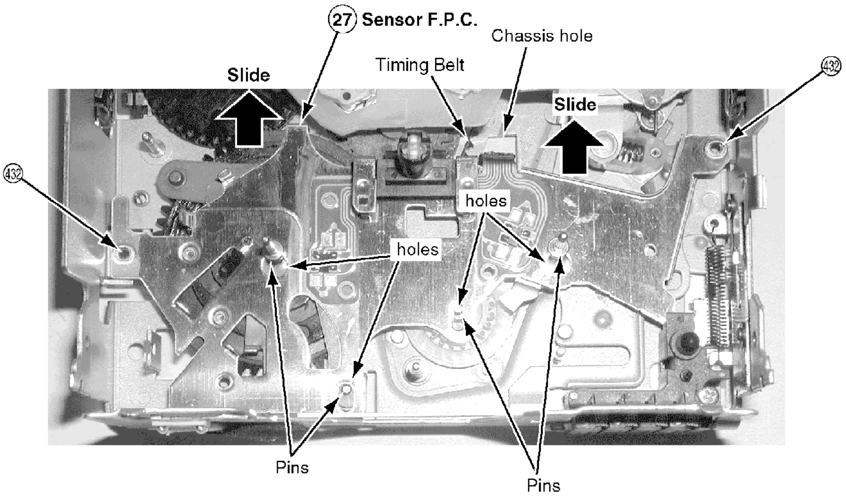
5.2.19. Loading Motor Unit

Fig. DM20


㉖ Loading Motor Unit
(429)
chassis holes
Bosses

5.2.20. Sensor F.P.C.

Fig. DM21



㉗ Sensor F.P.C.
Chassis hole
Timing Belt
Slide
(432)
Slide
(432)
holes
holes
Pins
Pins

Disassembly Notes:

1. When removing the Sensor F.P.C., slide it as indicated by the arrow.
2. Work carefully so as not to damage the F.P.C. when removing it.

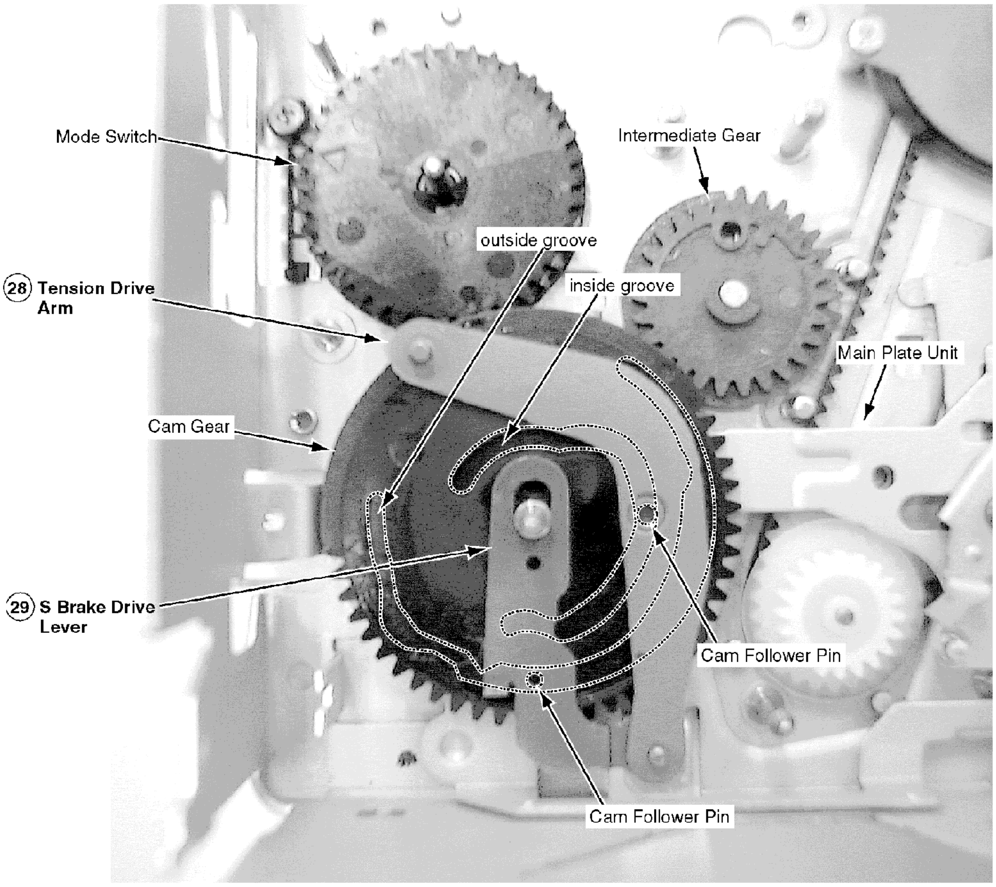
Reassembly Notes:

1. Installation of Sensor F.P.C.

1) Install the Sensor F.P.C. so that the Pins on chassis are in the holes on the Sensor F.P.C.
2) Slide the Sensor F.P.C., and then tighten 2 Screws (432).
3) Put the F.P.C. through the Chassis hole, and confirm that there is no contact between the Timing Belt and the F.P.C.

5.2.21. Tension Drive Arm, S Brake Drive Lever

Fig. DM22


Mode Switch
Intermediate Gear
outside groove
inside groove
㉘ Tension Drive Arm
Main Plate Unit
Cam Gear
㉙ S Brake Drive Lever
Cam Follower Pin
Cam Follower Pin

Reassembly Notes:

1. Installation of S Brake Drive Lever, Tension Drive Arm

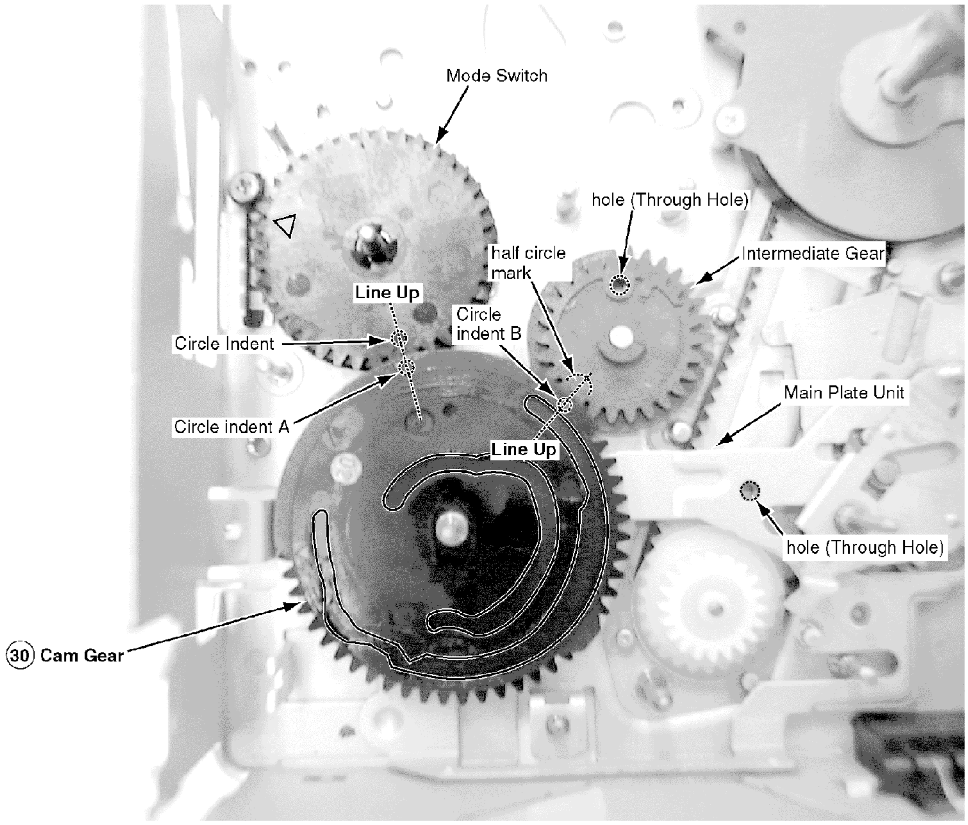
1) Confirm that the Intermediate Gear, Main Plate Unit, Mode Switch, and Cam Gear are in proper position. Refer to "Cam Gear."

2) Install the S Brake Drive Lever so that the Cam Follower Pin on S Brake Drive Lever is inserted to outside groove on the Cam Gear.

3) Install the Tension Drive Arm so that the Cam Follower Pin on Tension Drive Arm is inserted to inside groove on the Cam Gear.

5.2.22. Cam Gear

Fig. DM23


Mode Switch
hole (Through Hole)
half circle mark
Intermediate Gear
Line Up
Circle indent B
Circle Indent
Circle indent A
Main Plate Unit
Line Up
hole (Through Hole)
30 Cam Gear

Reassembly Notes:

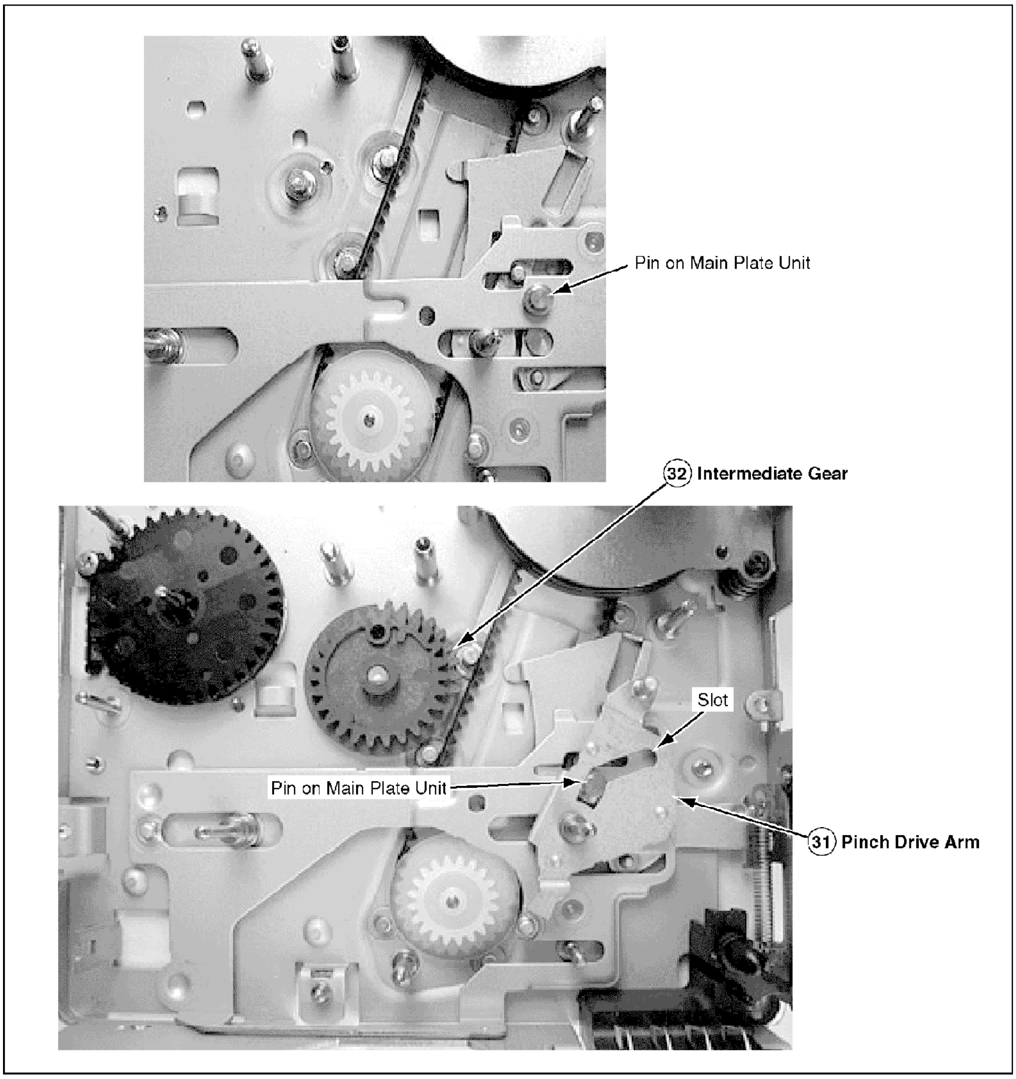
1. **Alignment of Intermediate Gear, Main Plate Unit, Mode Switch, Cam Gear**

1) Before installing the Cam Gear, align the hole on Intermediate Gear with hole on chassis (Through Hole), and then, align the hole on the Main Plate Unit with hole on chassis (Through Hole).

2) Install the Cam Gear so that Circle indent A on Cam Gear is aligned with Circle Indent on Mode Switch, and the Circle indent B on Cam Gear is aligned with half circle mark on Intermediate Gear.

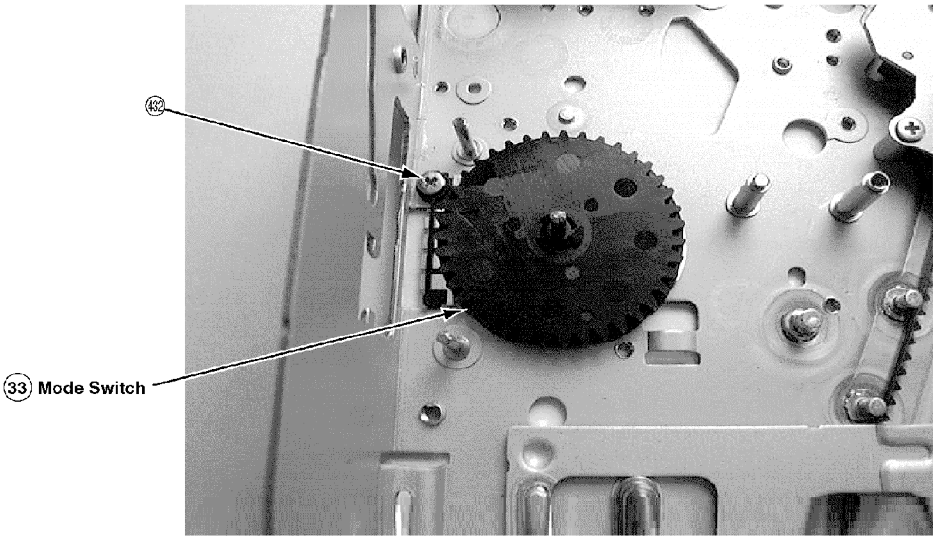
5.2.23. Pinch Drive Arm, Intermediate Gear

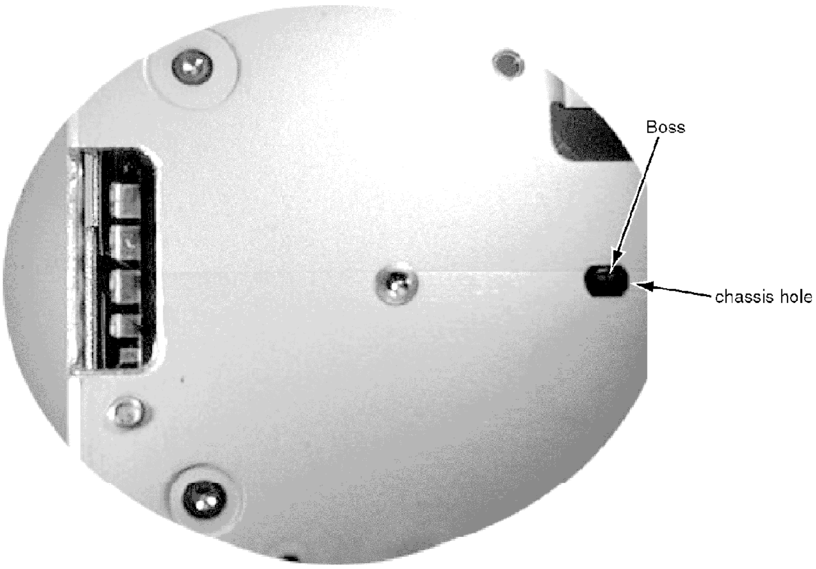
Fig. DM24


Pin on Main Plate Unit
㉜ Intermediate Gear
Slot
Pin on Main Plate Unit
㉛ Pinch Drive Arm

5.2.24. Mode Switch

Fig. DM25


(432)
(33) Mode Switch

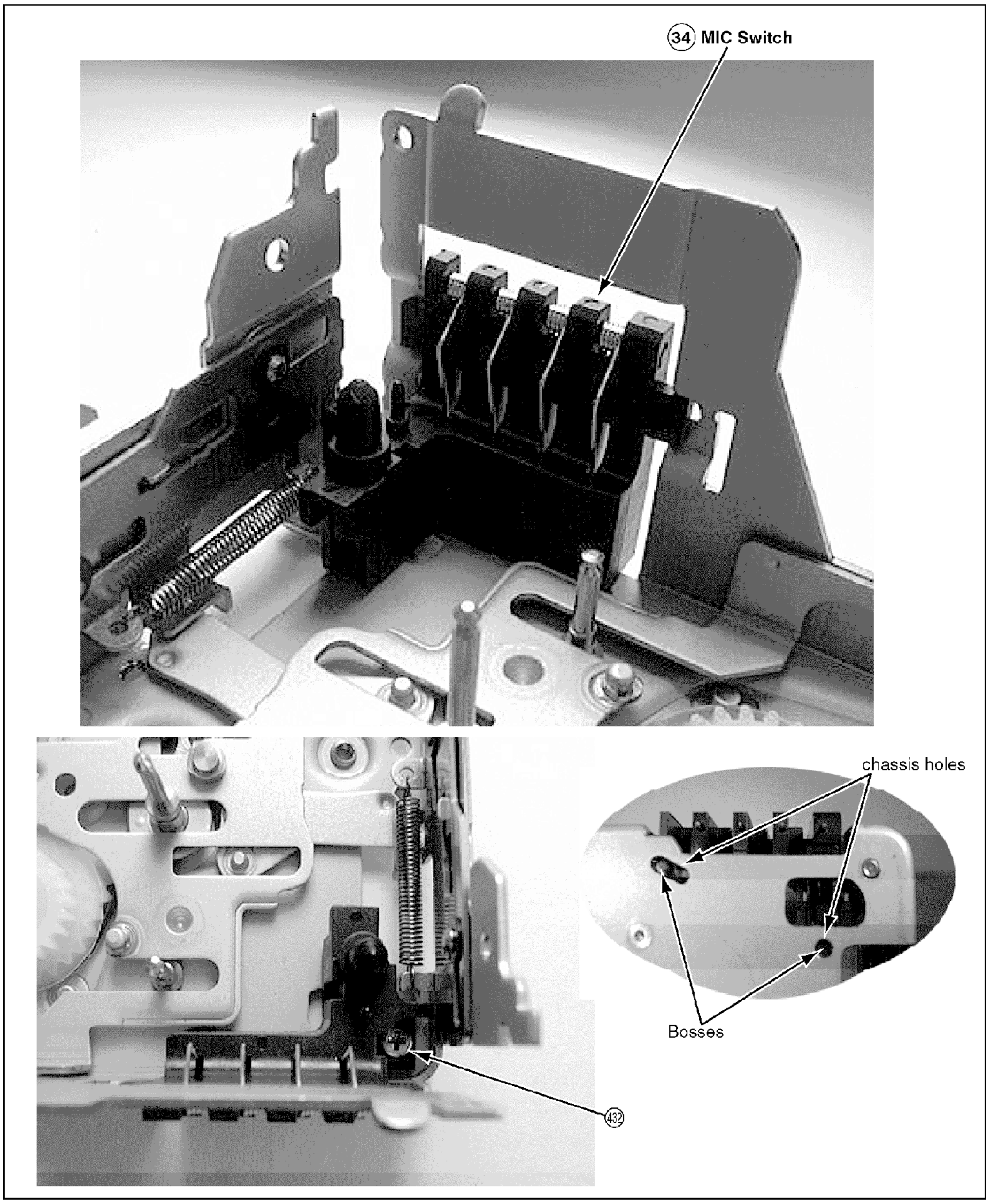

Boss
chassis hole

Reassembly Notes:

1. When installing the Mode Switch, install the Mode Switch without tottering

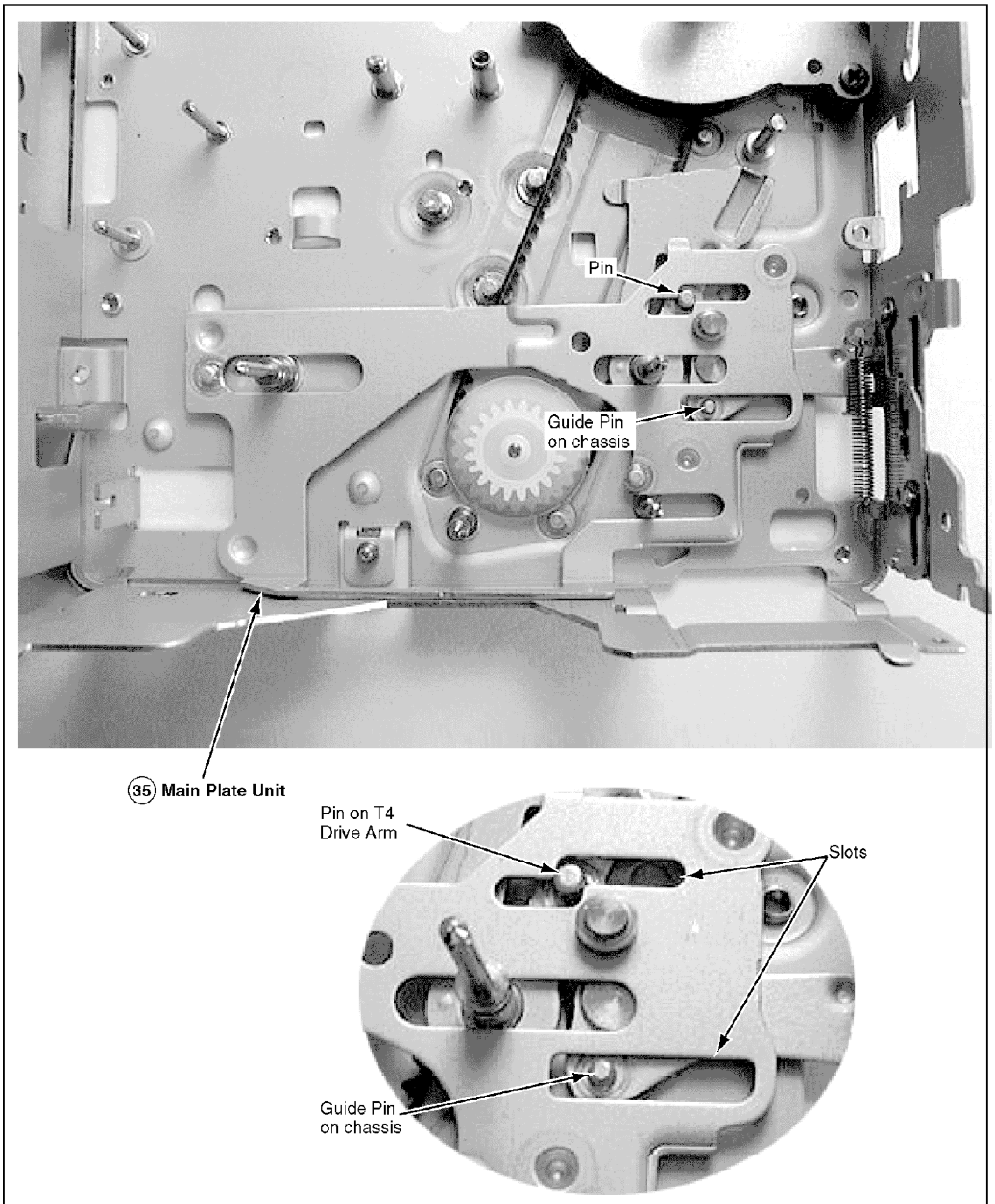
5.2.25. MIC Switch

Fig. DM26


㉞ MIC Switch
chassis holes
Bosses
(432)

5.2.26. Main Plate Unit

Fig. DM27


Pin
Guide Pin on chassis
㉟ Main Plate Unit
Pin on T4 Drive Arm
Slots
Guide Pin on chassis

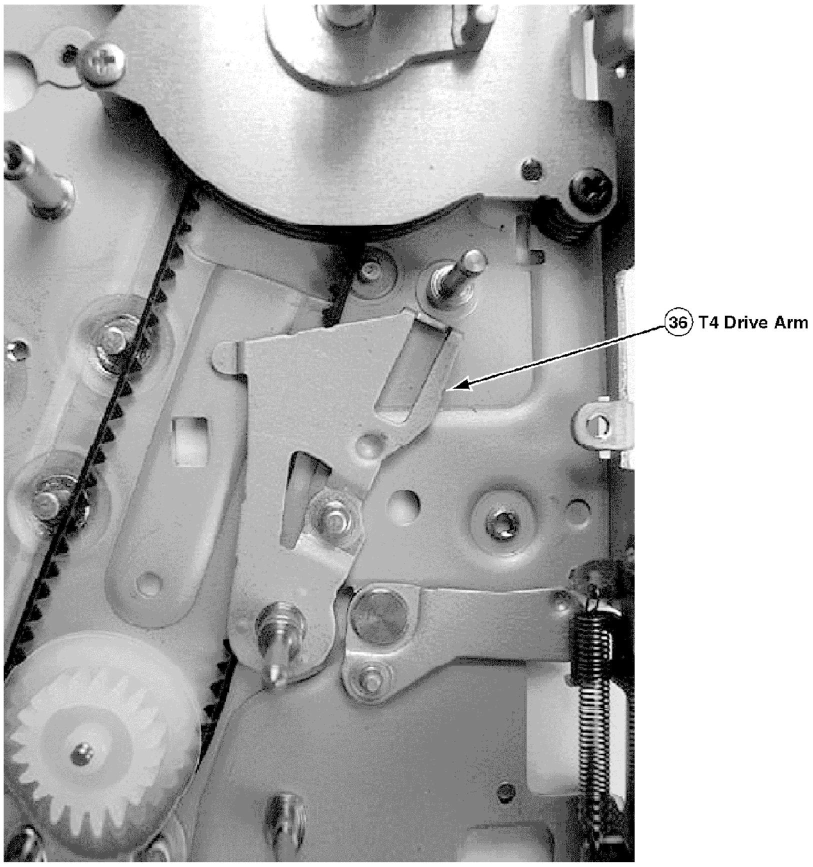
Reassembly Notes:

1. Installation of Main Plate Unit

1) Install the Main Plate Unit so that Pin on T4 Drive Arm and Guide Pin on chassis are in Slots on Main Plate Unit correctly.

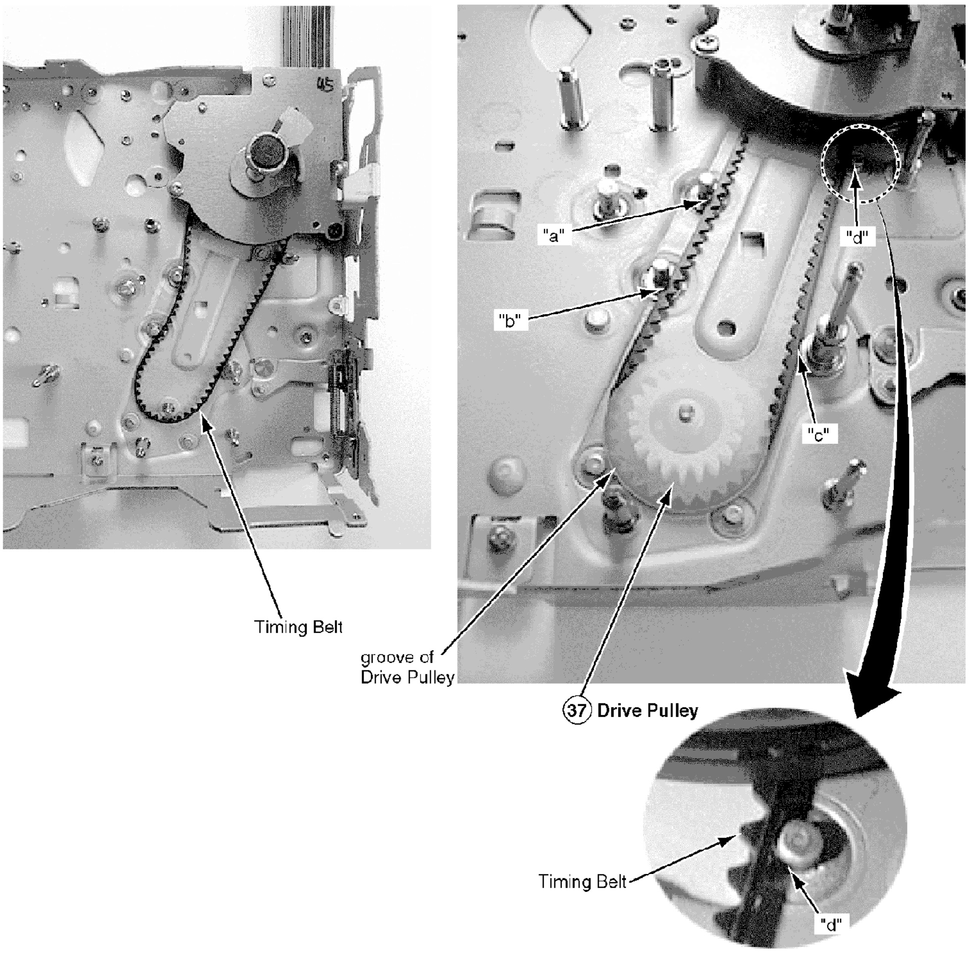
5.2.27. T4 Drive Arm

Fig. DM28


36 T4 Drive Arm

5.2.28. Drive Pulley

Fig. DM29

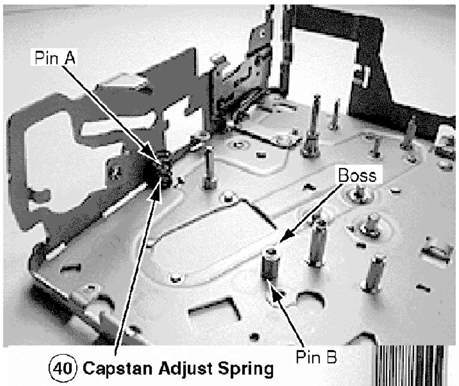

"a"
"d"
"b"
"c"
Timing Belt
groove of
Drive Pulley
(37) Drive Pulley
Timing Belt
"d"

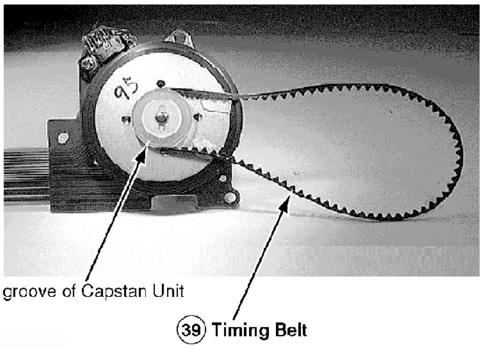
Reassembly Notes:

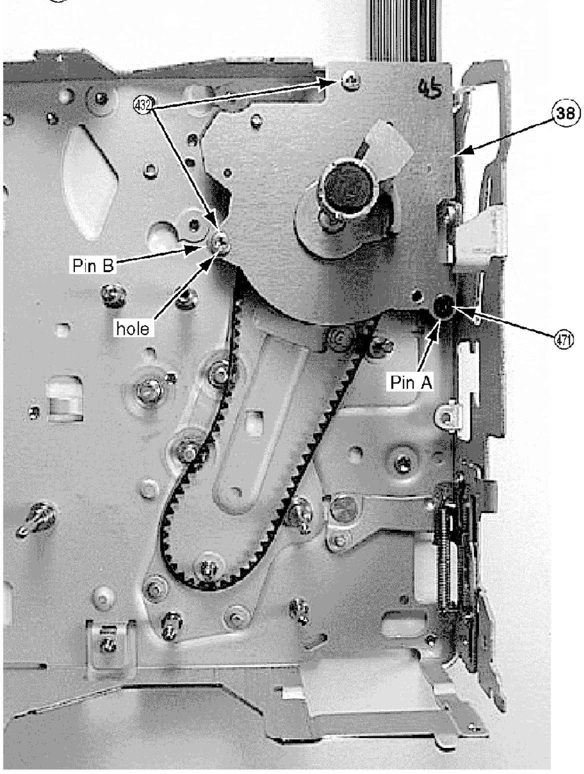
1. DO NOT let the Timing Belt twist.
   Be careful so as not to let the Timing Belt touch the greased portion.
2. When installing the Drive Pulley, confirm that the Timing Belt is in correct position as shown.
3. After installing the Drive Pulley, confirm that Drive Pulley and Capstan Rotor can rotate smoothly.

5.2.29. Capstan Unit, Timing Belt, Capstan Adjust Spring

Fig. DM30


Pin A
Boss
Pin B
(40) Capstan Adjust Spring


95
groove of Capstan Unit
(39) Timing Belt

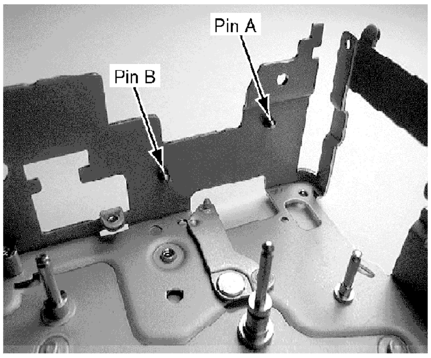

(432)
45
(38) Capstan Unit
Pin B
hole
Pin A
(471)

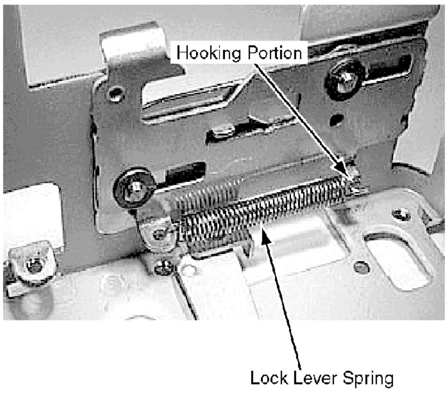
Reassembly Notes:

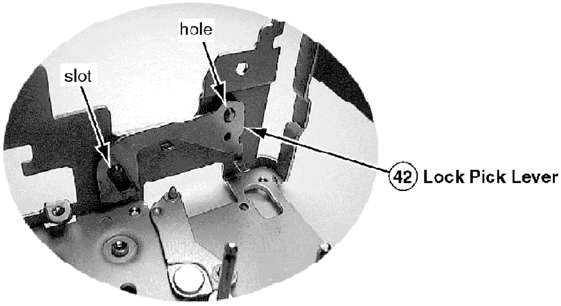
1. When installing the Capstan Unit, hook the Timing Belt to the groove of Capstan Unit.

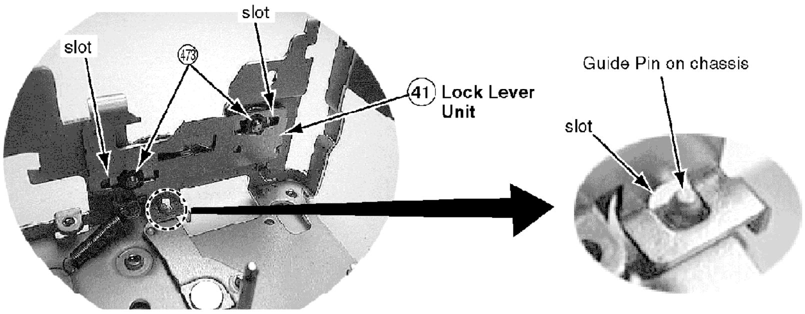
5.2.30. Lock Lever Unit, Lock Pick Lever

Fig. DM31




Hooking Portion
Lock Lever Spring


hole
slot
42 Lock Pick Lever


slot
slot
473
41 Lock Lever Unit
Guide Pin on chassis
slot

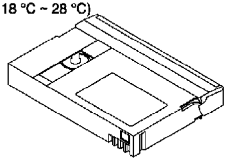
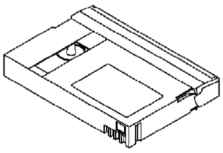
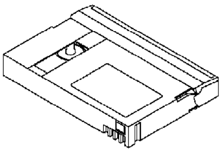
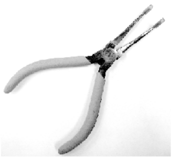
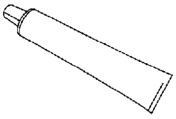
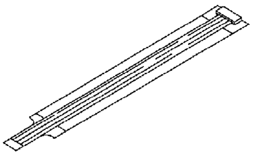
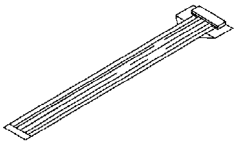
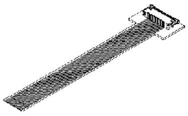
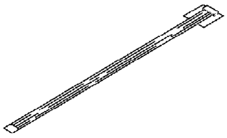
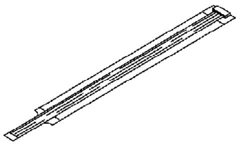
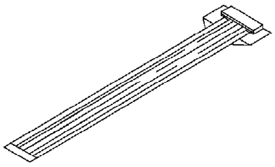
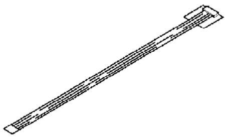
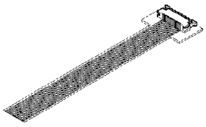
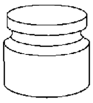
Reassembly Notes:

1. Installation of Lock Lever Unit

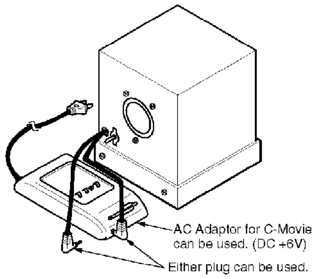
1) Install the Lock Lever Unit so that Pin A and Pin B are inserted to slots on Lock Lever Unit and Guide Pin on chassis is inserted to slot on Lock Lever Unit.

6. ADJUSTMENT PROCEDURES

6.1. SERVICE FIXTURES & TOOLS

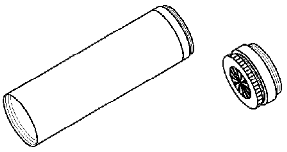
Color Bar Standard Tape VFM3010EDS (Keeping condition: Keep at 18 °C ~ 28 °C) 	Tape Path Alignment Tape LSVQ0041 	DVC Head Cleaning Tape VFK1451 
Plier for Non ZIF Connector LSVQ0028 	Capstan Tilt Adjustment Tool LSVQ0020 	Grease LSUQ0002 
Extension Cable 14P VFKW0124A 	Extension Cable 22P VUVS0012 	Extension Cable 18P LSUA0017 
Extension Cable 10P LSUA0016 	Extension Cable 12P VUVS0007 	Extension Cable 28P VUVS0015 
Extension Cable 11P LSUA0030 	Extension Cable 20P LSUA0020 	Grease VFKS0081 

Light Box and AC Adaptor VFK1164LBX1

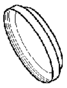


(AC Adaptor is not supplied)

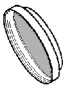
Infinity Lens (with Focus Chart) VFK1164TCM02



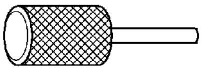
43mm Ring VFK1164TAR43



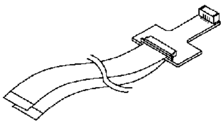
Color Conversion Filter (C14) VFK1164TFCT2



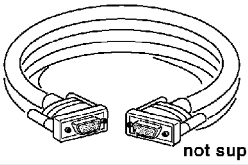
Post Height Adjustment Fixture LSVQ0021



Camera Connecting Cable LSUP0016

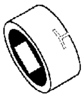


RS232C Cable

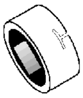


not supplied

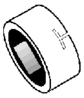
White Chart VFK1164TFWC2



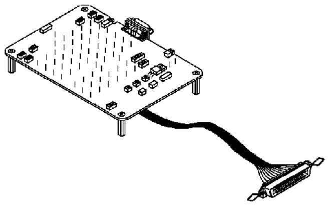
Color Bar Chart VFK1164TFCB2



Gray Scale Chart VFK1164TFGS2



Interface Board for Electrical Adjustment LSUP0007



6.2. MECHANICAL ADJUSTMENT

6.2.1. Comparison between adjustment items and replacement parts

Replacement Parts / Adjustment Items	TENSION ARM UNIT	CAPSTAN UNIT	PINCH ARM UNIT	CYLINDER UNIT	CYLINDER BASE UNIT	S POST UNIT	T POST UNIT	MECHANISM CHASSIS ASS'Y
TENSION POST ADJUSTMENT	○							
CAPSTAN TILT ADJUSTMENT		○						
T4 POST HEIGHT CONFIRMATION			○					
ENVELOPE OUTPUT ADJUSTMENT				○	○	○	○	○

6.2.2. TENSION POST ADJUSTMENT

Purpose:

To maintain a constant tape tension so that the tape runs with stability.

Symptom of Misadjustment:

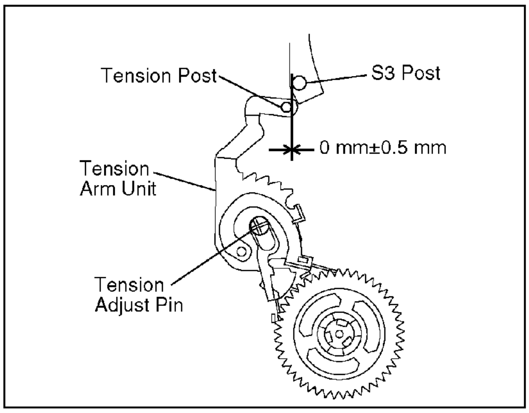
1. **If the adjusted value is below the specification, the tape tension is not sufficient, thus causing a tape slack.**
2. **If the adjusted value is above the specification, the tape tension is too high, thus causing tape damage.**

Equipment Required:

Flat Headed (-) Screwdriver (Purchase Locally)

1. **Without cassette tape, place the Mechanism in the PLAY Position (the Tension Post goes to the most left side) by applying DC Power Supply (3 V) to the Loading Motor terminal.**
2. **Confirm that there is a space of 0 mm±0.5 mm between the right edge of the Tension Post and the left edge of the S3 Post. If not, with Flat Headed (-) Screwdriver, adjust the Tension Adjust Pin so that the space of 0 mm±0.5 mm is made.**

Fig. T1



6.2.3. CAPSTAN TILT ADJUSTMENT

Purpose:

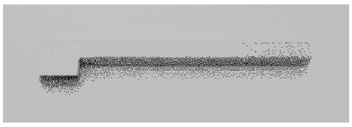
To adjust the tilt of the Capstan Shaft properly.

Symptom of Misadjustment:

If the tilt of the Capstan Shaft is poorly adjusted, the tape might be damaged.

Equipment Required:

Capstan Tilt Adjustment Tool (LSVQ0020)



1. Set the Capstan Tilt Adjustment Tool between Capstan Unit and Chassis.

Fig. T2-1

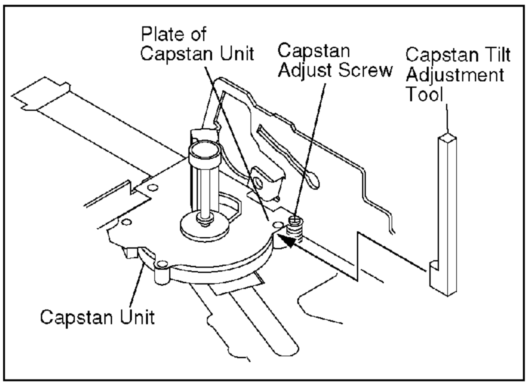
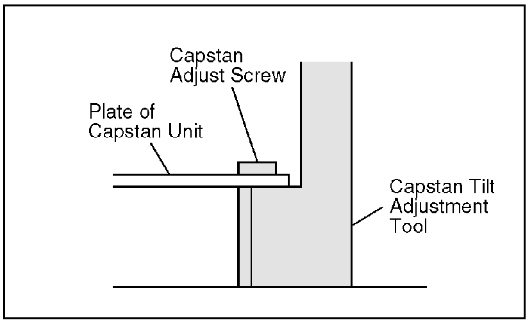


Plate of Capstan Unit
Capstan Adjust Screw
Capstan Tilt Adjustment Tool
Capstan Unit

2. Tighten the Capstan Adjust Screw so that the plate of Capstan Unit just touches to the Capstan Tilt Adjustment Tool.

Fig. T2-2


Capstan Adjust Screw
Plate of Capstan Unit
Capstan Tilt Adjustment Tool

6.2.4. T4 POST HEIGHT CONFIRMATION

Purpose:

To confirm so that the height of the T4 Post is proper.

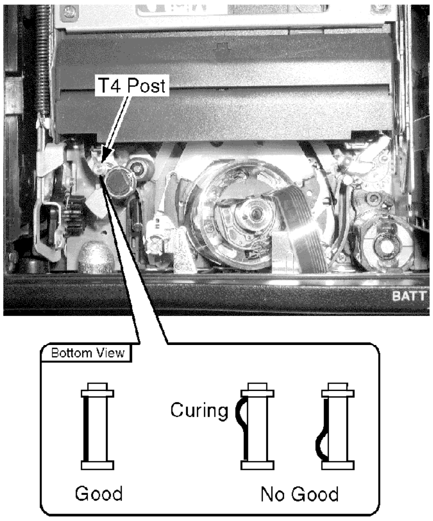
Symptom:

If the height of the T4 Post is incorrect, the tape might be damaged.

1. To remove the Cassette Cover, refer to “Disassembly Method” of “CABINET SECTION” in DISASSEMBLY/ASSEMBLY PROSEDURES.
2. After removing the Cassette Cover, insert the tape without the Cassette Cover.

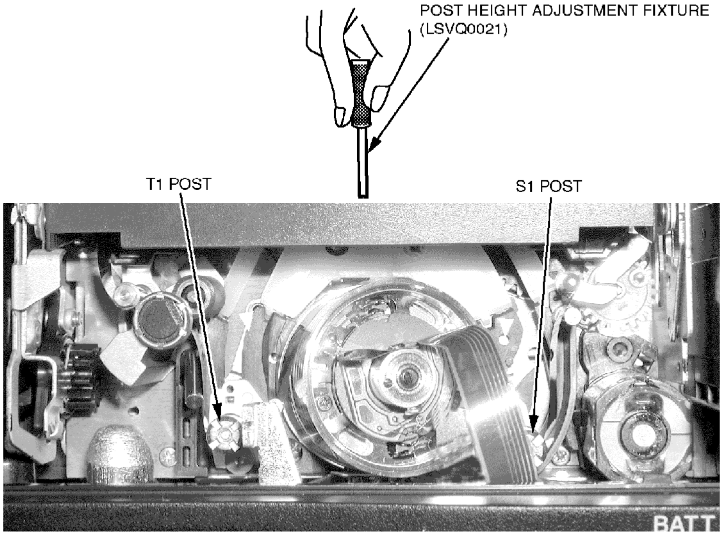
3. Confirm that the tape travels without curing at T4 post in both PLAY and REVIEW modes. If curing is apparent, replace the Pinch Arm Unit.

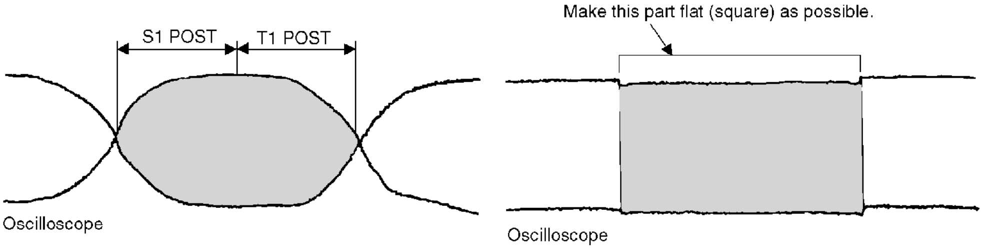
Fig. T3-1



6.2.5. ENVELOPE OUTPUT ADJUSTMENT

1. Connect the Camcorder and the Interface Board with Camera Connecting Cable.
2. Connect the oscilloscope to "Envelope TP" on the Interface Board.
3. Playback the Tape Path Alignment Tape (LSVQ0041).
4. Adjust the S1 post by turning the top of post with Post Height Adjustment Fixture (LSVQ0021) so that the left half of envelope signal becomes flat as possible.
5. Adjust the T1 post by turning the top of post with Post Height Adjustment Fixture (LSVQ0021) so that the right half of envelope signal becomes flat as possible.


POST HEIGHT ADJUSTMENT FIXTURE
(LSVQ0021)
T1 POST
S1 POST
BATT


S1 POST
T1 POST
Oscilloscope
Make this part flat (square) as possible.
Oscilloscope

Before Adj.

After Adj.

Note:
After the adjustment, be sure to confirm BER (Bit Error Ratio) using EVR Adjustment Software.
If it is NG, try this adjustment once again.

6.3. ELECTRICAL ADJUSTMENT

6.3.1. INITIAL GUIDELINE

The table below shows which adjustments are necessary according to the unit parts and individual parts to be replaced. Make sure to perform these adjustments shown below as necessary.

Replacement Parts / Adjustment Item		MAIN C.B.A.	IC301 (CAMERA SIGNAL PROCESS)	IC703 (IRIS DRIVE)	IC901(EVF SIGNAL PROCESS)	IC3001 (CAMERA DIGITAL SIGNAL PROCESS/SHUFFLING)	IC3002 (VIDEO/AUDIO SIGNAL PROCESS)	IC6007 (EEPROM)	IC6009 (DAC)	LCD C.B.A.	IC8001(LCD RGB SIGNAL PROCESS)	CCD UNIT	LENS UNIT	LCD UNIT	CYLINDER UNIT
VIDEO	Sensitivity Adjustment of Tape sensors	○						○							
	PG shifter Adjustment	○						○							○
	Luminance Level Adjustment	○				○	○	○							
	Color Level Adjustment	○				○	○	○							
Camera	Hall Amp Adjustment	○		○				○	○				○		
	Pixel Error Interpolation Adjustment for CCD	○						○				○			
	Zoom tracking Adjustment	○						○					○		
	Iris PWM Adjustment	○		○				○	○				○		
	White Balance Adjustment	○	○			○		○				○			
LCD	PLL Adjustment	○						○		○	○			○	
	Pedestal Level Adjustment	○						○		○	○			○	
	RB Sub Pedestal Level Adjustment	○						○		○	○			○	
	COM Level Adjustment	○						○		○	○			○	
	White Balance Adjustment	○						○		○	○			○	
Color EVF	PLL Adjustment	○			○			○							
	Pedestal Level Adjustment	○			○			○							
	RB Sub Pedestal Level Adjustment	○			○			○							
	White Balance Adjustment	○			○			○							

Note: ○ : Adjustment Item

6.3.2. TEST EQUIPMENT

1. Dual-Trace Oscilloscope
Voltage Range: 0.001 to 50 V/Div.
Frequency Range: DC to 50 MHz
Probes: 10:1, 1:1

2. Frequency Counter

3. Vectorscope

4. Plastic Tip Driver

5. Personal Computer
PC: IBM PC/AT or compatible
OS: MS-DOS or MS-Windows
CPU: 486 or higher
Drive: 3.5 inch 1.44 MB floppy disk drive
Port: D-Sub-9-pin Serial or D-Sub-25-pin Serial
Monitor: VGA Color

6. PC-EVR Adjustment Program (VF2D2002DV10)
Note:

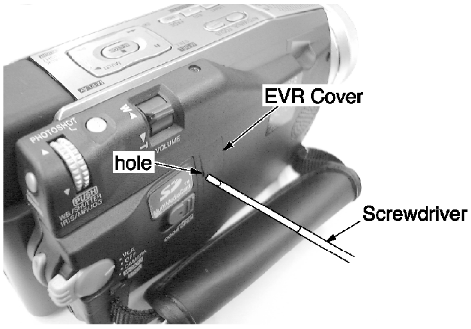
Ask latest version when placing order for PC-EVR Adjustment program.

7. **Interface Board (LSUP0007)**
8. **RS-232C Cable**
9. **Camera Connecting Cable (LSUP0016)**
10. **Color Bar Standard Tape (VFM3010EDS)**
    (Keeping condition: Keep at 18 °C ~ 28 °C)
11. **Gray Scale Chart (VFK1164TFGS2)**
12. **White Chart (VFK1164TFWC2)**
13. **Color Bar Chart (VFK1164TFCB2)**
14. **Light Box and AC Adaptor (for VHS-C)**
15. **Infinity Lens (with Focus Chart) (VFK1164TCM02)**
16. **AC Adaptor (for DVC)**
17. **43 mm Ring (VFK1164TAR43)**
18. **Color Conversion Filter (C14) (VFK1164TFCT2)**

6.3.3. PREPARATION

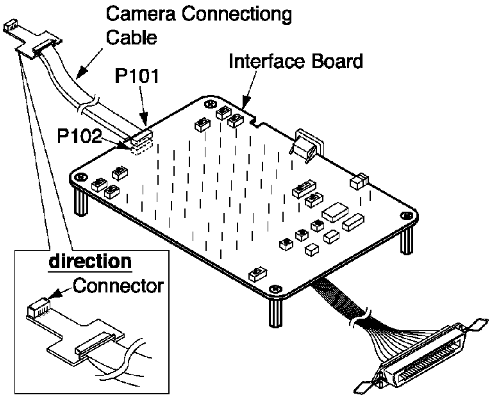
1. **Insert a flat headed (-) Screwdriver or similar object into the hole, remove the EVR Cover.**

Fig. E1-1



2. **Connect the Camera Connecting Cable to P101 and P102 on the Interface Board.**

Fig. E1-2

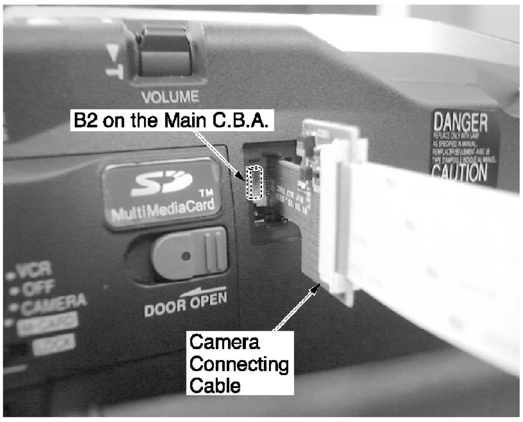

Camera Connectiong Cable
Interface Board
P101
P102
direction
Connector

Note:

Install Camera Connecting Cable so that the Connector is upward as shown.

3. **Connect the Camera Connecting Cable to the Connector B2 on the Main C.B.A.**

Fig. E1-3


VOLUME
B2 on the Main C.B.A.
DANGER
CAUTION
MultiMediaCard
VCR
OFF
CAMERA
DOOR OPEN
Camera Connecting Cable

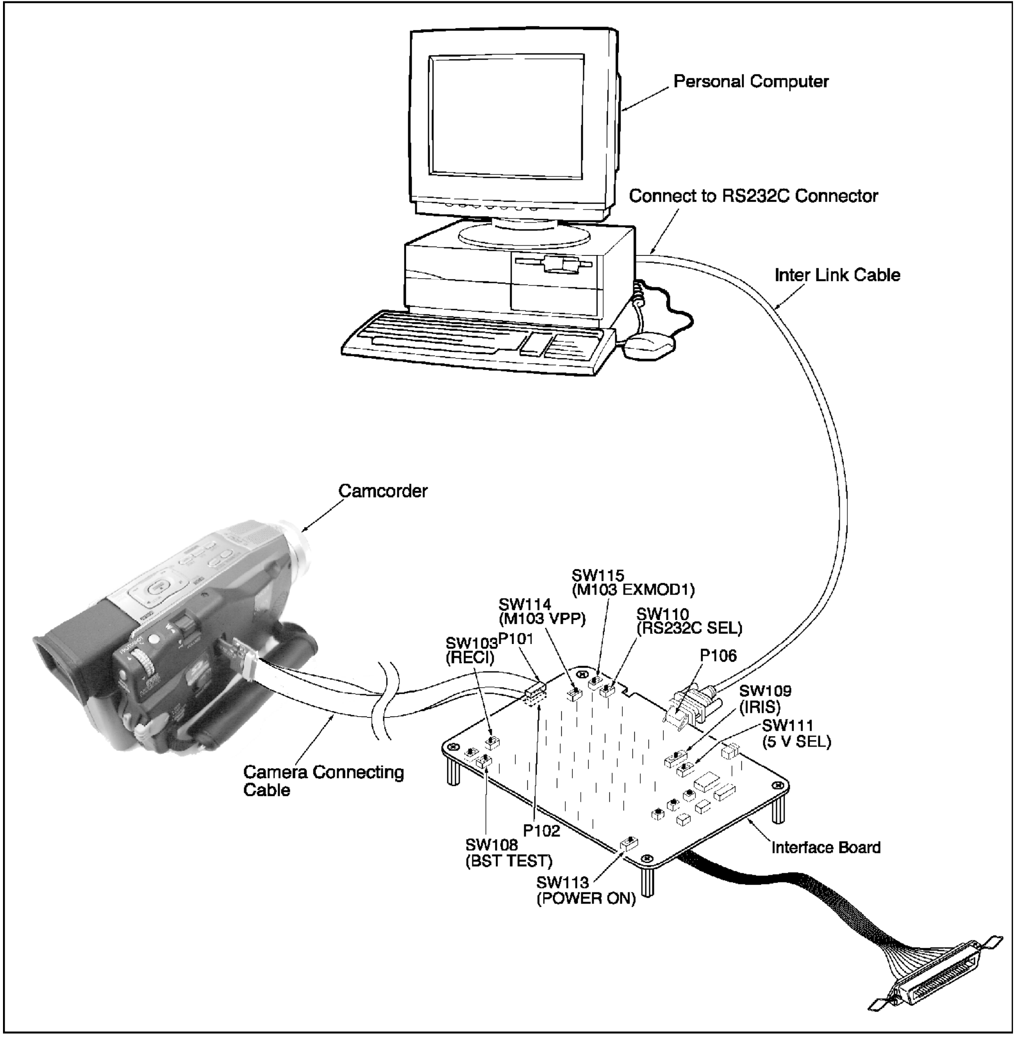
4. **Connect the AC Adaptor to the unit.**
5. **Connect the P106 on the Interface Board to RS232C of the PC with Inter Link Cable.**
6. **Set the SW115 (M103 EXMOD1) on the Interface Board to "GND."**
7. **Set the SW110 (RS232C SEL) on the Interface Board to "DSUB."**
8. **Set the SW114 (M103 VPP) on the Interface Board to "3V."**
9. **Set the SW103 (RECI) on the Interface Board to "OFF."**
10. **Set the SW108 (BST TEST) on the Interface Board to "OFF."**
11. **Set the SW109 (IRIS) on the Interface Board to center.**
12. **Set the SW111 (5V SEL) on the Interface Board to "CAM 5V."**

13. Set the SW113 (POWER ON) on the Interface Board to "NORM."

14. Power on the unit.

Fig. E1-4

<Computer Assisted Adjustment System>


Personal Computer
Connect to RS232C Connector
Inter Link Cable
Camcorder
SW115
(M103 EXMOD1)
SW114
(M103 VPP)
SW110
(RS232C SEL)
SW103
(RECI)
P101
P106
SW109
(IRIS)
SW111
(5 V SEL)
Camera Connecting
Cable
P102
SW108
(BST TEST)
Interface Board
SW113
(POWER ON)

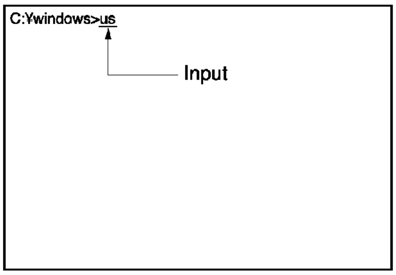
6.3.4. SET UP OF PC-EVR ADJUSTMENT PROGRAM

1. Turn on the Personal Computer.
MS-Windows will be set up automatically.

2. Restart it in MS-DOS mode.

3. Change the current directory to the one including the PC-EVR Adjustment Program and start up the PC-EVR Adjustment Program as follows.
A. If MS-DOS is Japanese mode, input "us," and then press "ENTER" key to be US mode on.

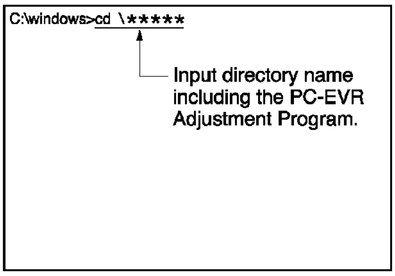
Fig. E2-1



```
C:¥windows>us
```

B. Input "cd *****," and then press "ENTER" key to change the directory to the one including the PC-EVR Adjustment Program.

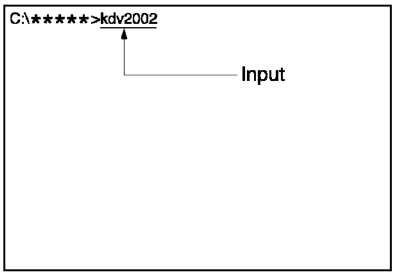
Fig. E2-2



```
C:\windows>cd \*****
```

C. Input "kdv2002," and then press "ENTER" key to start up the PC-EVR Adjustment Program.

Fig. E2-3



```
C:\*****>kdv2002
```

"Select Model Number Menu" will be displayed.

4. Select the model number which you are servicing, and then press "Enter" key. The starting display will be displayed.
5. Perform set up items according to menu until "Main Menu" is displayed.

6.3.5. HOW TO USE MAIN MENU

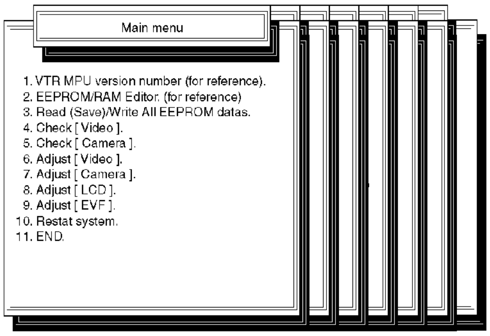
6.3.5.1. Main Menu

Select a Sub Menu to check, adjust the unit. by pressing ↑ ↓ (UP/DOWN) Key in Main Menu. Then, press "ENTER" Key. The Sub Menu will be displayed.

Note:

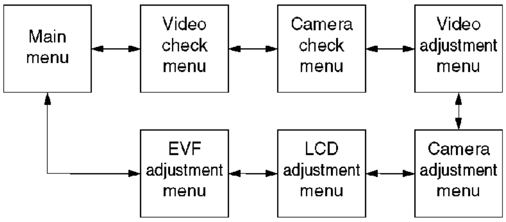
Menu 6 through 9 are needed for adjustment.

Fig. E3-1


Main menu
1. VTR MPU version number (for reference).
2. EEPROM/RAM Editor. (for reference)
3. Read (Save)/Write All EEPROM datas.
4. Check [Video].
5. Check [Camera].
6. Adjust [Video].
7. Adjust [Camera].
8. Adjust [LCD].
9. Adjust [EVF].
10. Restat system.
11. END.

With using <-- --> key, you can also see sub menu in order.

Fig. E3-2


Main menu
Video check menu
Camera check menu
Video adjustment menu
EVF adjustment menu
LCD adjustment menu
Camera adjustment menu

Note:

The adjusted data is stored to EEPROM IC after each adjustment.

7. SCHEMATIC DIAGRAMS

7.1. SCHEMATIC DIAGRAM & CIRCUIT BOARD LAYOUT NOTES

7.2. MAIN SCHEMATIC DIAGRAMS

7.3. REAR SCHEMATIC DIAGRAM

7.4. MICROPHONE/FRONT/EVF BACKLIGHT SCHEMATIC DIAGRAMS

7.5. LCD SCHEMATIC DIAGRAM (MODELS : PV-DV102/PV-DV202)

7.6. LCD SCHEMATIC DIAGRAM (MODEL : PV-DV402)

7.7. INTERCONNECTION SCHEMATIC DIAGRAM

7.8. VOLTAGE CHART

8. CIRCUIT BOARD LAYOUT

8.1. MAIN C.B.A.

8.2. REAR C.B.A.

8.3. MICROPHONE/FRONT/EVF BACKLIGHT C.B.A.

8.4. LCD C.B.A. (MODELS: PV-DV102/PV-DV202)

8.5. LCD C.B.A. (MODEL: PV-DV402)

9. BLOCK DIAGRAMS

10. EXPLODED VIEWS

10.1. MAIN PARTS SECTION

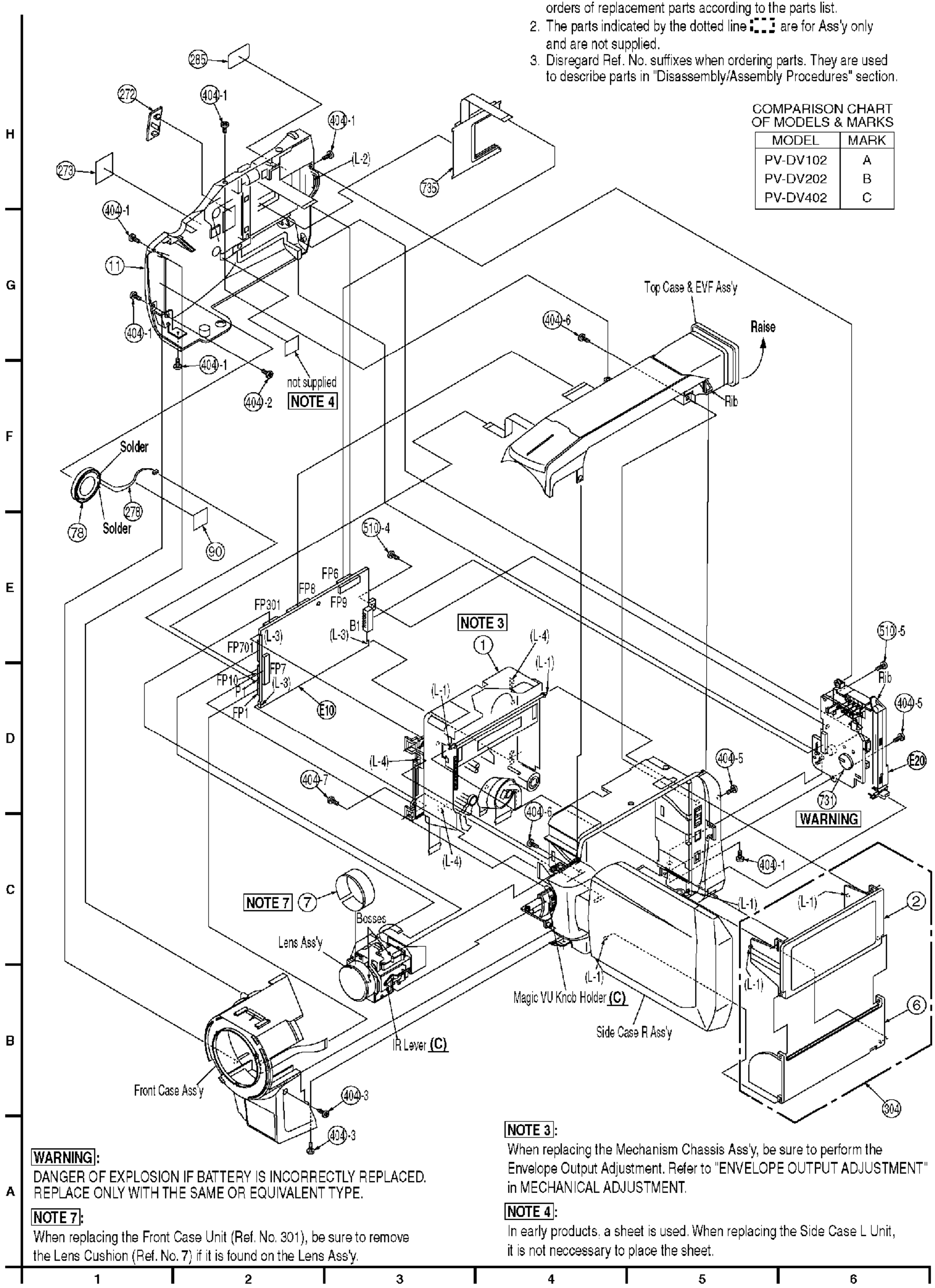
❶ MAIN PARTS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁞⁚⁞ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C



285
272
404-1
404-1
(L-2)
273
735
404-1
11
404-1
404-1
404-2
not supplied
NOTE 4
Top Case & EVF Ass'y
Raise
404-6
Rib
Solder
278
78
Solder
90
510-4
FP6
FP8
FP9
FP301
B1
(L-3)
(L-3)
FP701
FP7
FP10
P1
(L-3)
FP1
E10
NOTE 3
1
(L-4)
(L-1)
(L-1)
(L-4)
404-7
404-6
(L-4)
510-5
Rib
404-5
E20
404-5
731
WARNING
404-1
(L-1)
(L-1)
2
(L-1)
6
304
(L-1)
NOTE 7
7
Bosses
Lens Ass'y
Magic VU Knob Holder (C)
Side Case R Ass'y
IR Lever (C)
Front Case Ass'y
404-3
404-3
H
G
F
E
D
C
B
A
1
2
3
4
5
6

WARNING:
DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

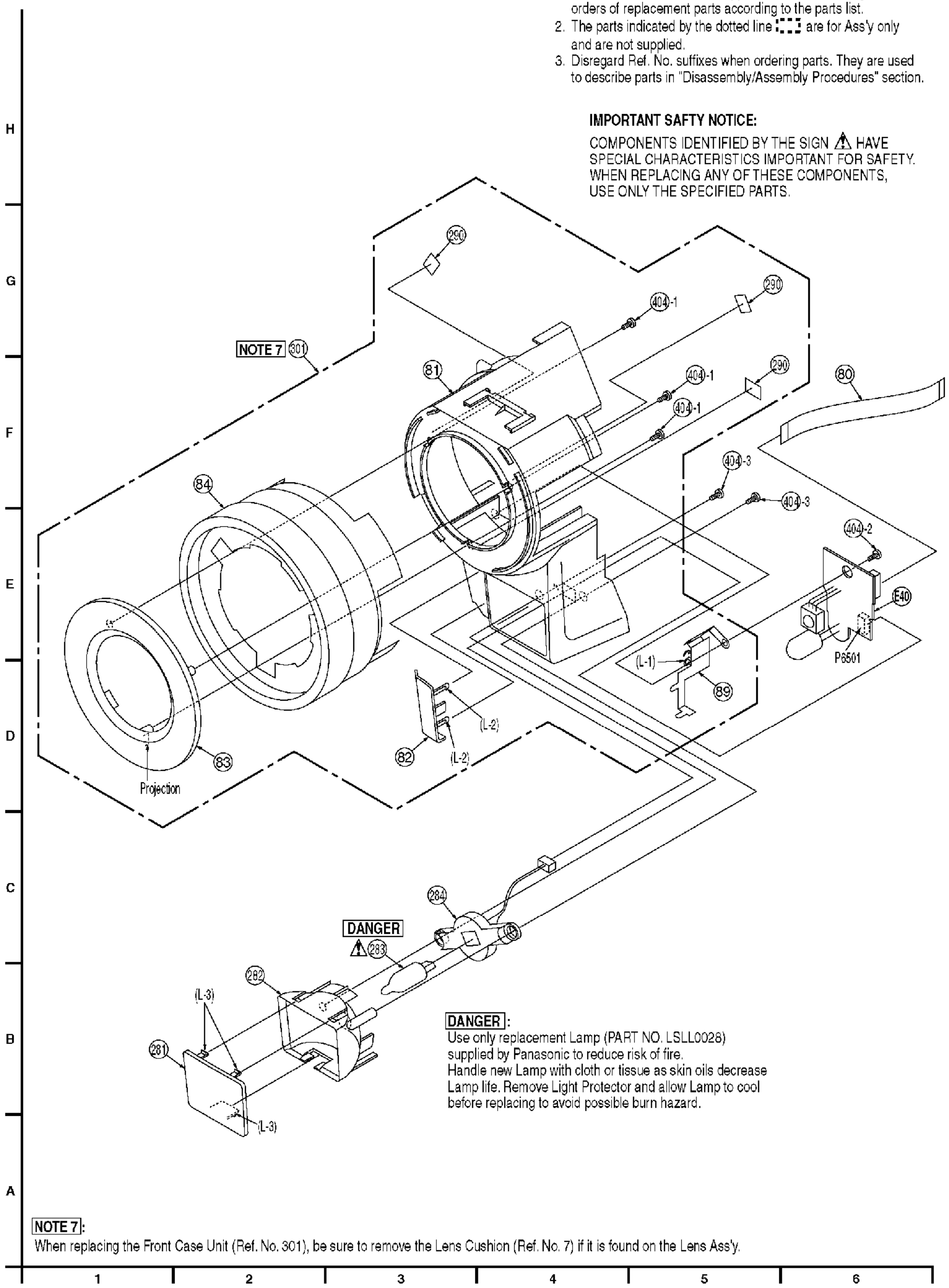
NOTE 7:
When replacing the Front Case Unit (Ref. No. 301), be sure to remove the Lens Cushion (Ref. No. 7) if it is found on the Lens Ass'y.

NOTE 3:
When replacing the Mechanism Chassis Ass'y, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.

NOTE 4:
In early products, a sheet is used. When replacing the Side Case L Unit, it is not neccessary to place the sheet.

10.2. FRONT CASE SECTION

❷ FRONT CASE SECTION


290
290
290
404-1
404-1
404-1
NOTE 7 301
81
80
84
404-3
404-3
404-2
E40
P6501
(L-1)
89
82
(L-2)
(L-2)
83
Projection
284
DANGER
283
282
(L-3)
(L-3)
281
(L-3)
H
G
F
E
D
C
B
A
1
2
3
4
5
6

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁝⁝⁝ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

IMPORTANT SAFTY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

DANGER:

Use only replacement Lamp (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire.

Handle new Lamp with cloth or tissue as skin oils decrease Lamp life. Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

NOTE 7:

When replacing the Front Case Unit (Ref. No. 301), be sure to remove the Lens Cushion (Ref. No. 7) if it is found on the Lens Ass'y.

10.3. CCD AND LENS SECTION

③ CCD AND LENS SECTION

COMPARISON CHART
OF MODELS & MARKS

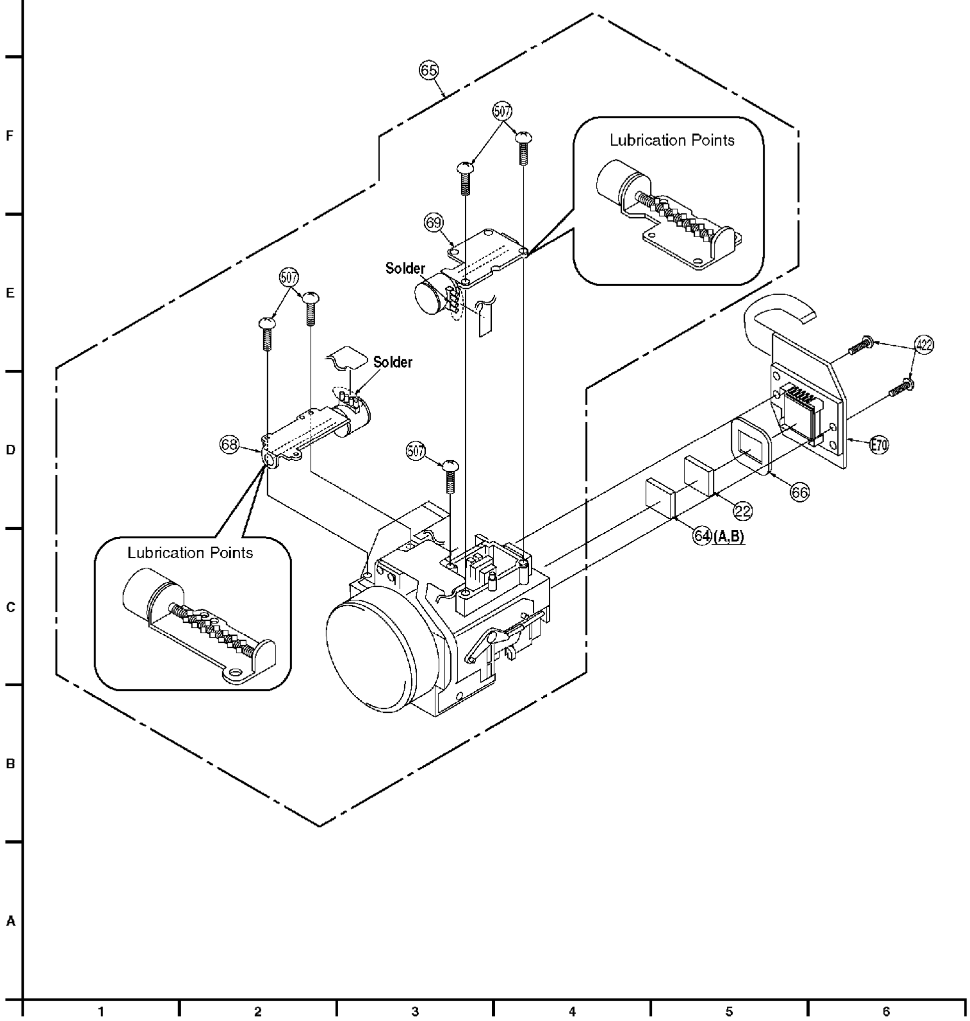
MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
□□□	Grease	Availability from Factroy	LSUQ0002



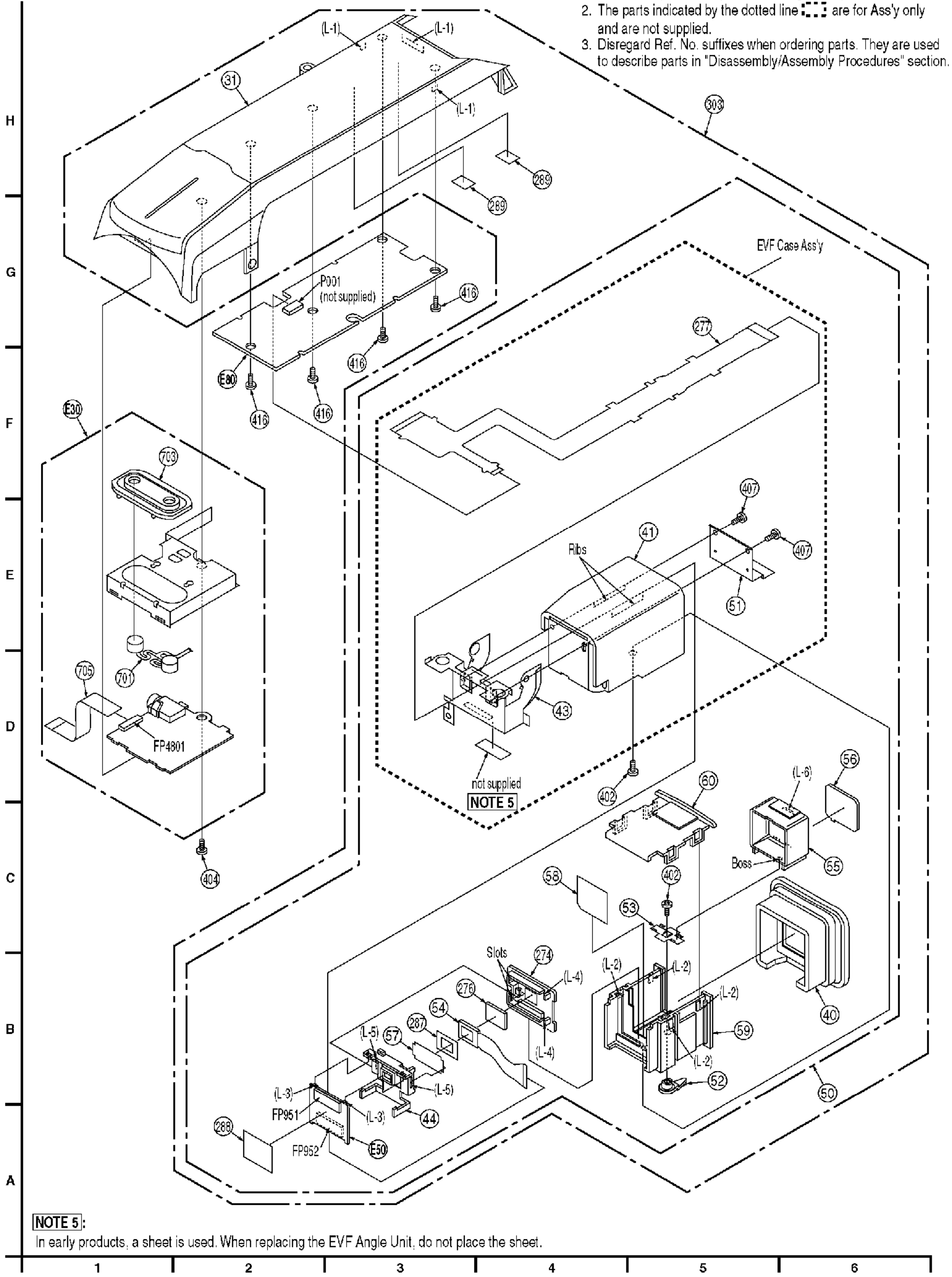
H
G
F
E
D
C
B
A
1
2
3
4
5
6
65
507
Lubrication Points
69
Solder
507
Solder
422
68
507
E70
66
22
64(A,B)
Lubrication Points

10.4. TOP CASE AND EVF SECTION

❹ TOP CASE AND EVF SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁞⁞ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.


H
G
F
E
D
C
B
A
1
2
3
4
5
6
(L-1)
(L-1)
(L-1)
31
303
289
289
P001
(not supplied)
416
416
416
416
E80
E30
703
705
701
FP4801
404
EVF Case Ass'y
277
407
407
41
Ribs
51
43
not supplied
NOTE 5
402
402
60
56
56
(L-6)
55
Boss
53
Slots
274
(L-4)
(L-4)
276
54
287
(L-5)
(L-5)
57
(L-2)
(L-2)
(L-2)
(L-2)
59
40
52
50
(L-3)
(L-3)
FP951
FP952
44
288
E50

NOTE 5:
In early products, a sheet is used. When replacing the EVF Angle Unit, do not place the sheet.

10.5. SIDE CASE R AND LCD SECTION

(Model: PV-DV102, PV-DV202)

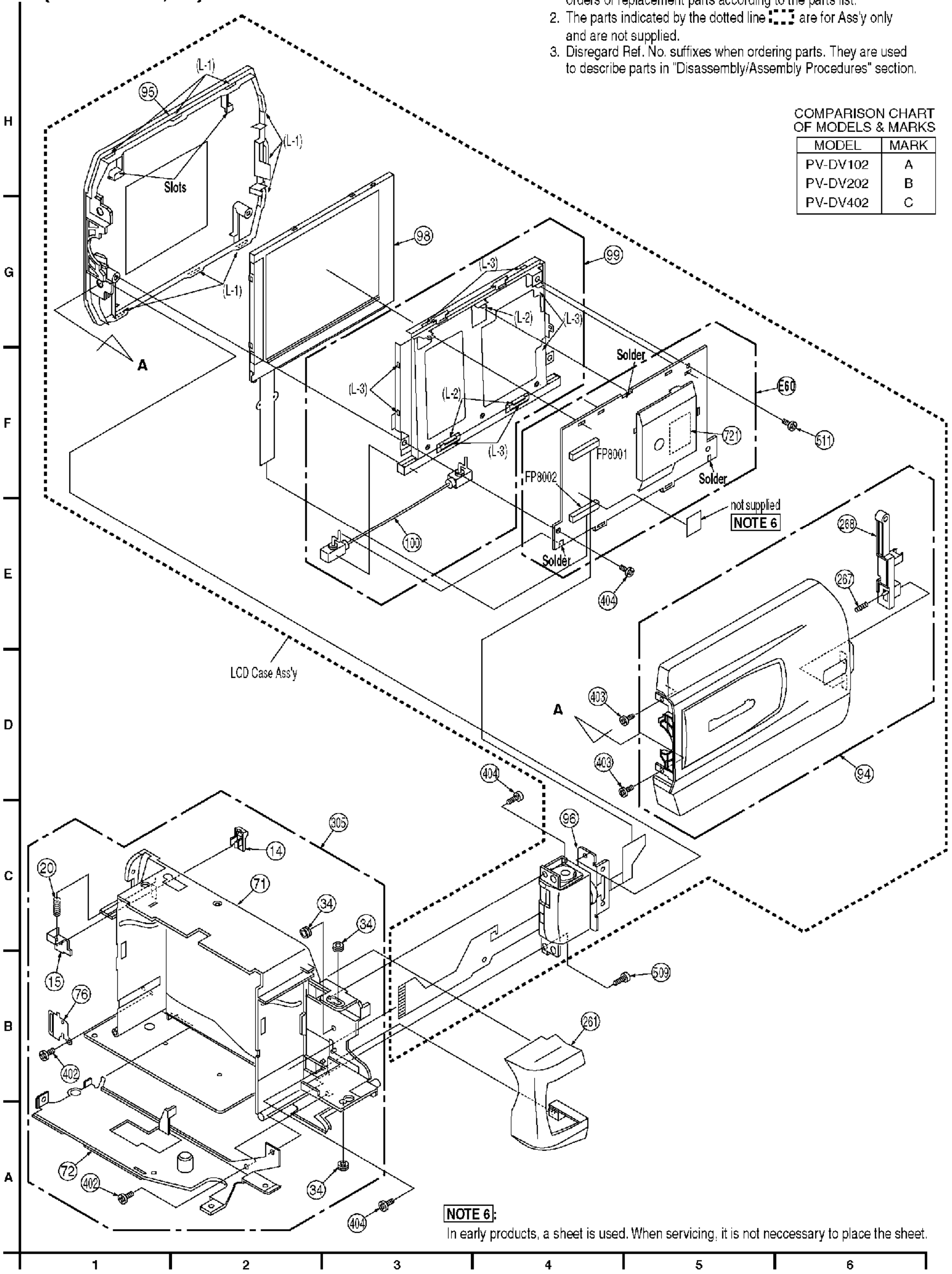
❺ SIDE CASE R AND LCD SECTION
(Model: A, B)

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁞‐‐⁞ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C



H
G
F
E
D
C
B
A
1
2
3
4
5
6
95
(L-1)
Slots
98
99
(L-3)
(L-2)
Solder
E60
721
511
FP8001
FP8002
not supplied
NOTE 6
100
404
268
267
LCD Case Ass'y
403
94
305
14
71
20
34
15
76
402
96
509
261
72

NOTE 6:
In early products, a sheet is used. When servicing, it is not neccessary to place the sheet.

(Model: PV-DV402)

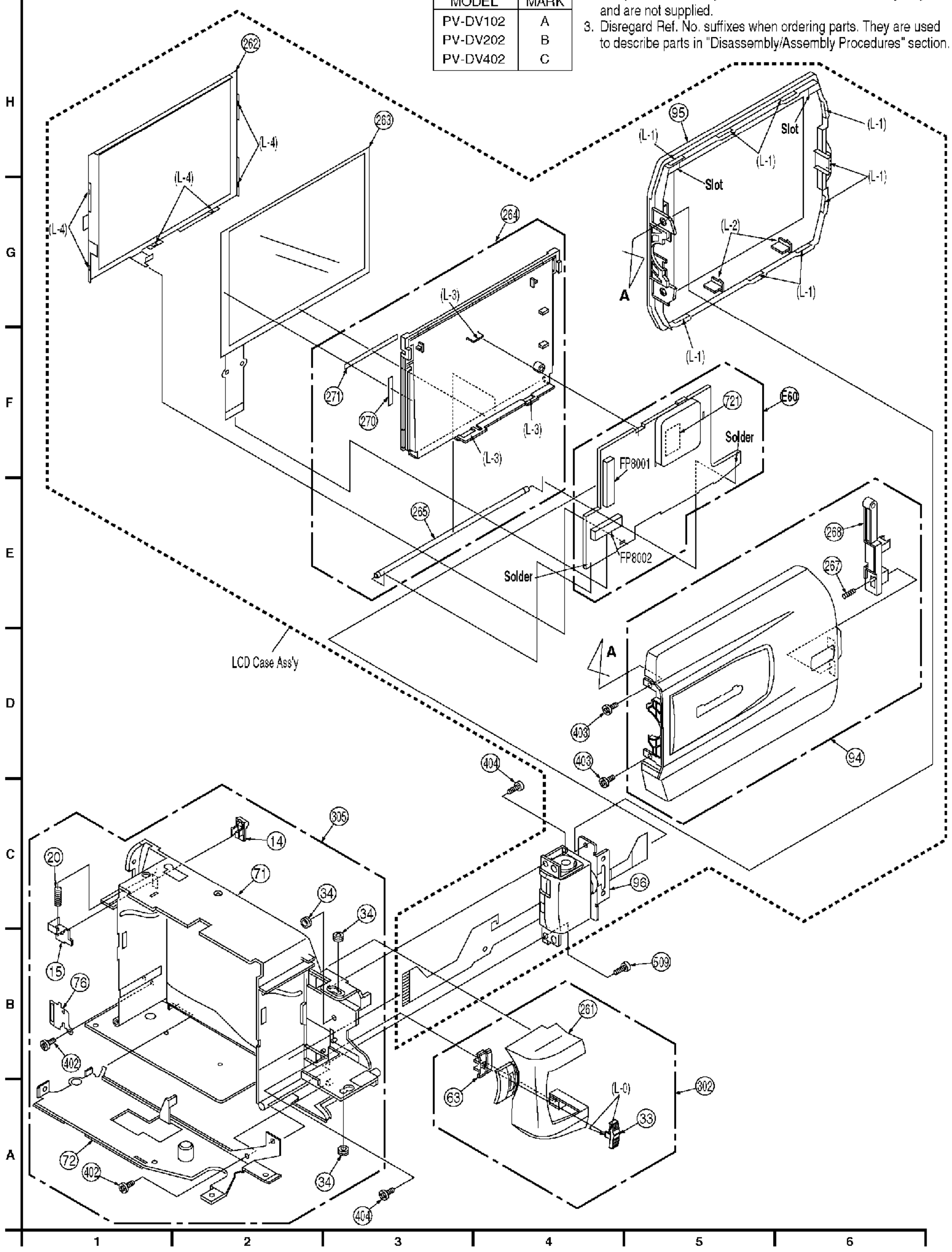
❺ SIDE CASE R AND LCD SECTION
(Model: C)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁞⁚⁞ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



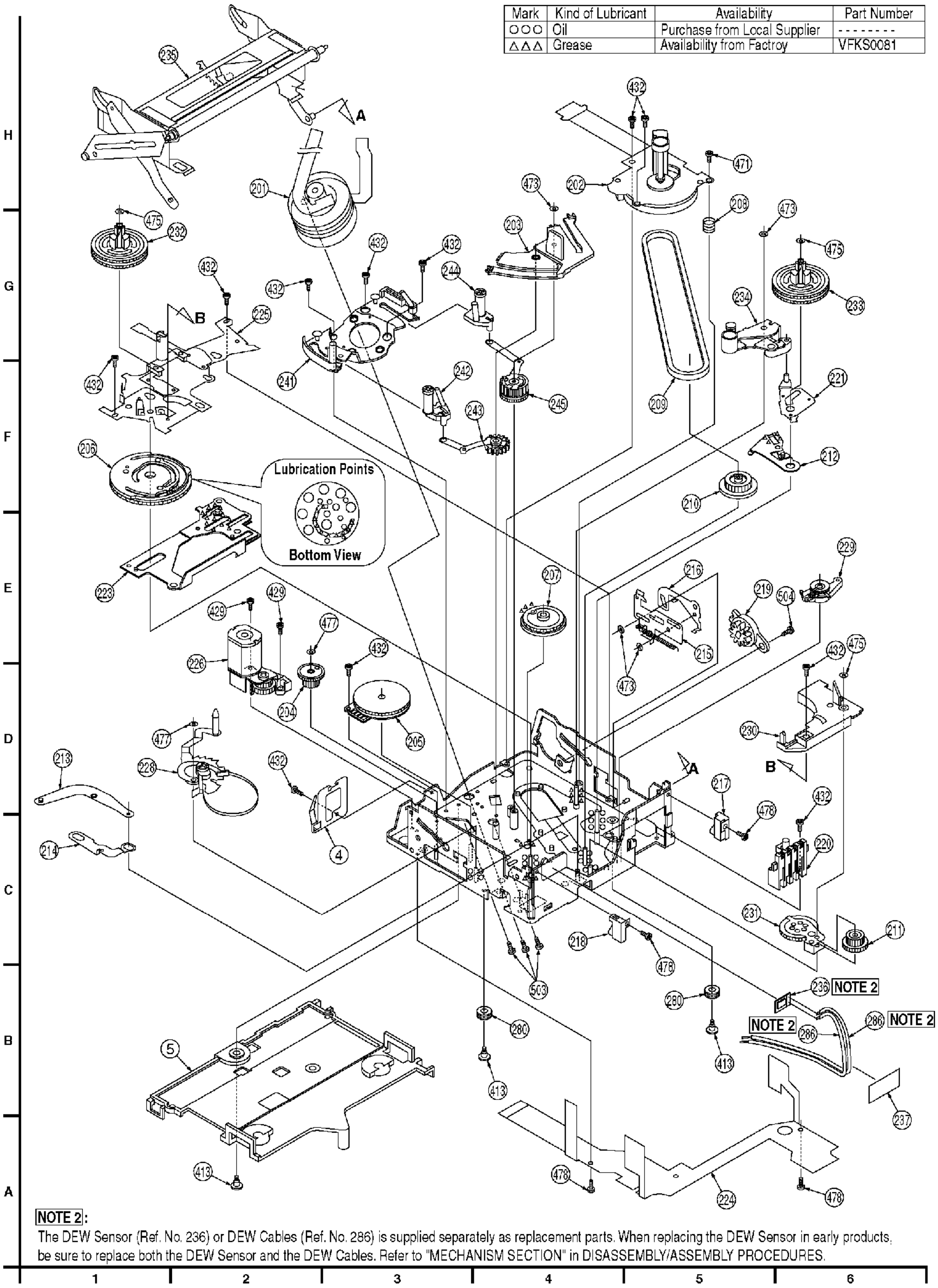
H
G
F
E
D
C
B
A
262
(L-4)
(L-4)
(L-4)
(L-4)
263
264
(L-3)
(L-3)
(L-3)
271
270
265
LCD Case Ass'y
95
(L-1)
Slot
(L-1)
Slot
(L-1)
(L-1)
(L-2)
(L-1)
(L-1)
A
721
E60
Solder
FP8001
FP8002
Solder
268
267
A
403
403
94
404
305
14
20
71
34
34
15
76
402
72
402
34
404
96
509
261
63
(L-0)
33
302
1
2
3
4
5
6

10.6. MECHANISM SECTION

❻ MECHANISM SECTION

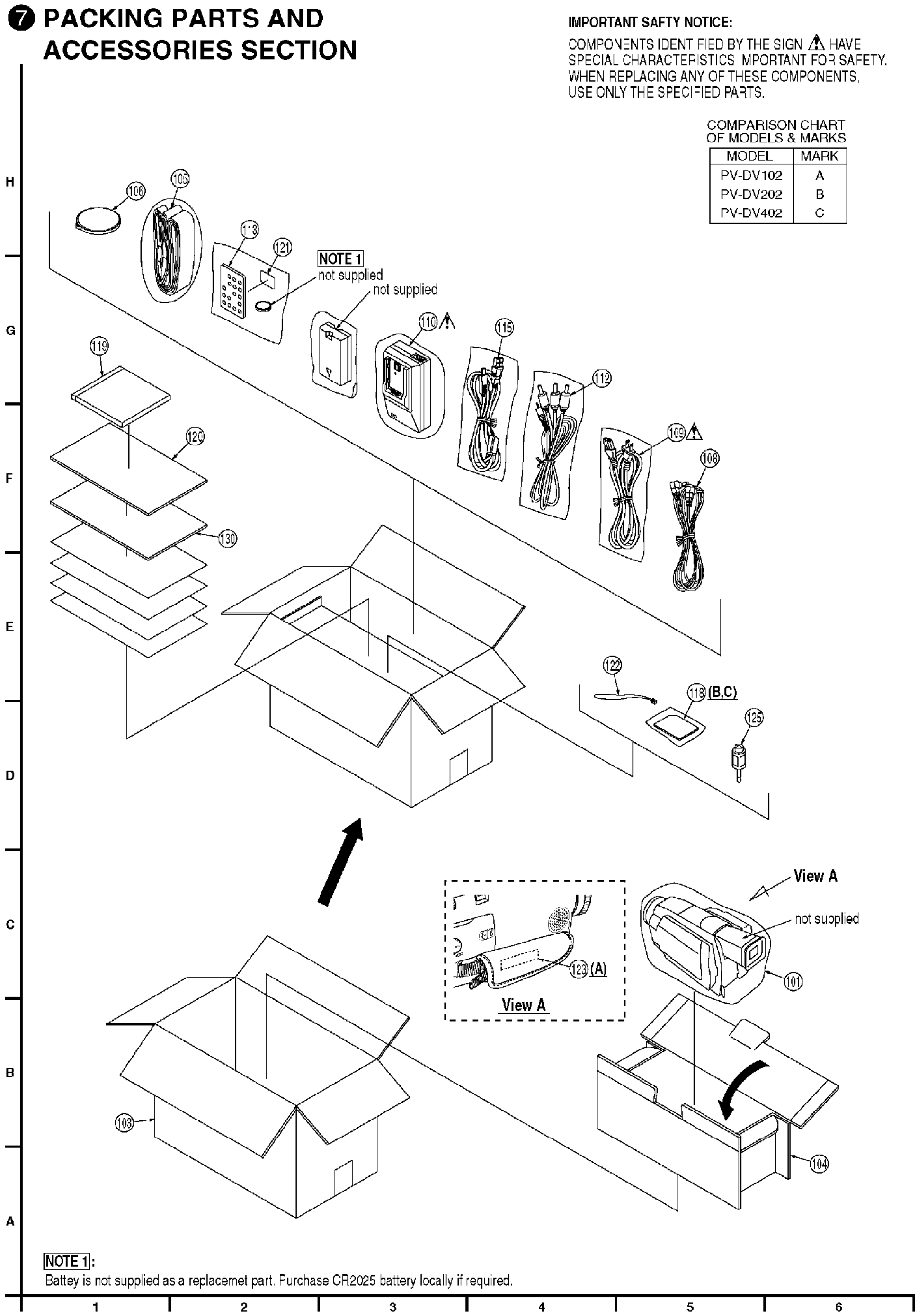
LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
○○○	Oil	Purchase from Local Supplier	- - - - - - - -
△△△	Grease	Availability from Factroy	VFKS0081


H
G
F
E
D
C
B
A
1
2
3
4
5
6
235
A
201
432
471
473
202
208
473
475
232
203
432
432
432
244
475
233
B
225
432
241
242
245
234
432
209
221
243
206
Lubrication Points
Bottom View
212
210
223
229
207
216
219
504
429
429
477
432
215
473
226
204
205
432
475
230
477
B
213
228
432
A
217
478
432
4
220
214
231
211
218
478
503
280
236
NOTE 2
NOTE 2
286
286
NOTE 2
5
280
413
413
237
413
478
224
478

NOTE 2:
The DEW Sensor (Ref. No. 236) or DEW Cables (Ref. No. 286) is supplied separately as replacement parts. When replacing the DEW Sensor in early products, be sure to replace both the DEW Sensor and the DEW Cables. Refer to "MECHANISM SECTION" in DISASSEMBLY/ASSEMBLY PROCEDURES.

10.7. PACKING PARTS AND ACCESSORIES SECTION



❼ PACKING PARTS AND ACCESSORIES SECTION

IMPORTANT SAFTY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

H
G
F
E
D
C
B
A
1
2
3
4
5
6
106
105
113
121
NOTE 1
not supplied
not supplied
110 ⚠
115
112
109 ⚠
108
119
120
130
122
118 (B,C)
125
View A
not supplied
123 (A)
View A
101
103
104

NOTE 1:
Battey is not supplied as a replacemet part. Purchase CR2025 battery locally if required.

11. REPLACEMENT PARTS LISTS

BEFORE REPLACING PARTS, READ THE FOLLOWING:

11.1. REPLACEMENT NOTES

11.1.1. General Notes

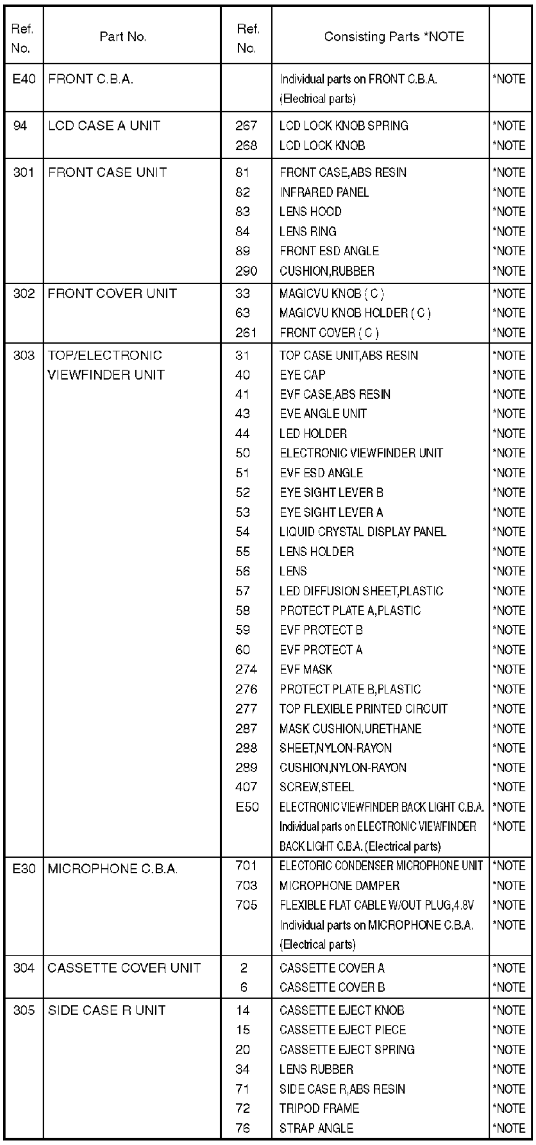
1. Use only original replacement parts:

To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list.

2. IMPORTANT SAFETY NOTICE
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components, use only the specified parts.
3. SPECIAL NOTE
   All integrated circuits and many other semiconductor devices are electrostatically sensitive and therefore require the special handling techniques described under the "ELECTROSTATICALLY SENSITIVE (ES) DEVICES" section of this service manual.
4. Parts with no Ref. No. in "EXPLODED VIEWS" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
5. Parts different in shape or size may be used. However, only interchangeable parts will be supplied as service replacement parts.
6. Parts with mark "VED" in the Remarks column are supplied from VED. Others are supplied from MKE.
7. Item numbers with capital letter E (Example: E10, E20,...) in the Ref. No. column are shown in the exploded views.
8. Parts whose Ref. Nos. are the same are interchangeable as replacement parts. Any of these parts may be ordered and used as a replacement part.
9. Battery (Ref. No. 731) replacement note:
   WARNING: DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED. REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.
10. SPECIAL NOTE*
    The following parts are supplied only as units: Front C.B.A. (Ref. No. E40), LCD Case A Unit (Ref. No. 94), Front Case Unit (Ref. No. 301), Front Cover Unit (Ref. No. 302), Top/Electronic Viewfinder Unit (Ref. No. 303), Microphone C.B.A. (Ref. No. E30), Cassette

Cover Unit (Ref. No. 304) and Side Case R Unit (Ref. No. 305). Therefore, parts indicated by (*NOTE) in the Remarks column are not supplied as separate replacement parts.

In case any parts indicated by (*NOTE) require replacing, be sure to replace the whole unit (e.g., entire Front Case Unit).



Ref. No.	Part No.	Ref. No.	Consisting Parts *NOTE	
E40	FRONT C.B.A.		Individual parts on FRONT C.B.A. (Electrical parts)	*NOTE
94	LCD CASE A UNIT	267	LCD LOCK KNOB SPRING	*NOTE
		268	LCD LOCK KNOB	*NOTE
301	FRONT CASE UNIT	81	FRONT CASE,ABS RESIN	*NOTE
		82	INFRARED PANEL	*NOTE
		83	LENS HOOD	*NOTE
		84	LENS RING	*NOTE
		89	FRONT ESD ANGLE	*NOTE
		290	CUSHION,RUBBER	*NOTE
302	FRONT COVER UNIT	33	MAGICVU KNOB (C)	*NOTE
		63	MAGICVU KNOB HOLDER (C)	*NOTE
		261	FRONT COVER (C)	*NOTE
303	TOP/ELECTRONIC VIEWFINDER UNIT	31	TOP CASE UNIT,ABS RESIN	*NOTE
		40	EYE CAP	*NOTE
		41	EVF CASE,ABS RESIN	*NOTE
		43	EVE ANGLE UNIT	*NOTE
		44	LED HOLDER	*NOTE
		50	ELECTRONIC VIEWFINDER UNIT	*NOTE
		51	EVF ESD ANGLE	*NOTE
		52	EYE SIGHT LEVER B	*NOTE
		53	EYE SIGHT LEVER A	*NOTE
		54	LIQUID CRYSTAL DISPLAY PANEL	*NOTE
		55	LENS HOLDER	*NOTE
		56	LENS	*NOTE
		57	LED DIFFUSION SHEET,PLASTIC	*NOTE
		58	PROTECT PLATE A,PLASTIC	*NOTE
		59	EVF PROTECT B	*NOTE
		60	EVF PROTECT A	*NOTE
		274	EVF MASK	*NOTE
		276	PROTECT PLATE B,PLASTIC	*NOTE
		277	TOP FLEXIBLE PRINTED CIRCUIT	*NOTE
		287	MASK CUSHION,URETHANE	*NOTE
		288	SHEET,NYLON-RAYON	*NOTE
		289	CUSHION,NYLON-RAYON	*NOTE
		407	SCREW,STEEL	*NOTE
		E50	ELECTRONIC VIEWFINDER BACK LIGHT C.B.A.	*NOTE
			Individual parts on ELECTRONIC VIEWFINDER BACK LIGHT C.B.A. (Electrical parts)	*NOTE
E30	MICROPHONE C.B.A.	701	ELECTORIC CONDENSER MICROPHONE UNIT	*NOTE
		703	MICROPHONE DAMPER	*NOTE
		705	FLEXIBLE FLAT CABLE W/OUT PLUG,4.8V	*NOTE
			Individual parts on MICROPHONE C.B.A. (Electrical parts)	*NOTE
304	CASSETTE COVER UNIT	2	CASSETTE COVER A	*NOTE
		6	CASSETTE COVER B	*NOTE
305	SIDE CASE R UNIT	14	CASSETTE EJECT KNOB	*NOTE
		15	CASSETTE EJECT PIECE	*NOTE
		20	CASSETTE EJECT SPRING	*NOTE
		34	LENS RUBBER	*NOTE
		71	SIDE CASE R,ABS RESIN	*NOTE
		72	TRIPOD FRAME	*NOTE
		76	STRAP ANGLE	*NOTE

11.1.2. Mechanical Replacement Notes

1. **Section No. of parts shown in Exploded Views are indicated in the Remarks column.**
2. **Abbreviation**

   RTL: Retention Time Limited

   This indicates that the retention time is limited for this item. After

the discontinuation of this item in production, it will no longer be available.

3. Cut Washers (Ref. No. 473, 475, and 477) are not reusable. If removed, install a new one.
4. Lamp (Ref. No. 283) replacement note: / DANGER: Use only replacement Lamp (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire. Handle new Lamp with cloth or tissue as skin oils decrease Lamp life. Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.
5. DEW Sensor (Ref. No. 236) and DEW Cables (Ref. No. 286) replacement note:
   The DEW Sensor (Ref. No. 236) or DEW Cables (Ref. No. 286) is supplied separately as replacement parts. When replacing the DEW Sensor in early products, be sure to replace both the DEW Sensor and the DEW Cables. Refer to "DEW Sensor, DEW Cable" of MECHANISM SECTION in DISASSEMBLY/ASSEMBLY PROCEDURES.
6. Mechanism Chassis Ass'y (Ref. No. 1) replacement note:
   When replacing the Mechanism Chassis Ass'y, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.
7. Front Case Unit (Ref. No. 301) replacement note:
   When replacing the Front Case Unit (Ref. No. 301), be sure to remove the Lens Cushion (Ref. No. 7) if it is found on the Lens Ass'y.

11.1.3. Electrical Replacement Notes

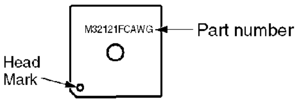
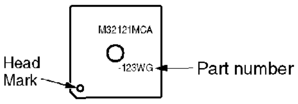
1. Unless otherwise specified;
   All resistors are in Ω, K = 1,000 Ω, M = 1,000 kΩ.
2. Abbreviation
   RTL: Retention Time Limited
   This indicates that the retention time is limited for this item. After the discontinuation of this item in production, it will no longer be available.
   NR: Non Repairable Board Ass'y

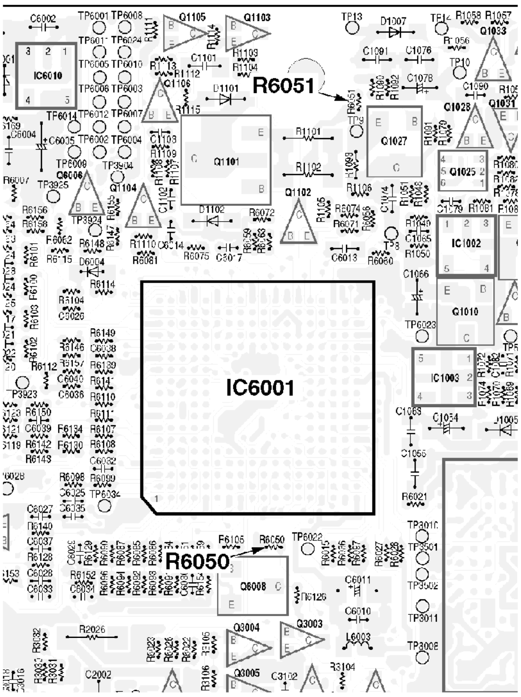
MGF CHIP: Metal Glaze Film Chip
C CHIP: Ceramic Chip
COMPLX CMP: Complex Component
W FLMPRF: Wirewound Flameproof
C.B.A.: Circuit Board Assembly
P.C.B.: Printed Circuit Board
E.S.D.: Electrostatically Sensitive Devices

3. SERVICE OF CHIP PARTS
   When servicing chip parts, please use a soldering iron of less than 30 W.
4. When replacing 0 Ω resistor, a wire can be substituted for it.
5. Parts with mark "CSP" in the Remarks column are CSP (Chip Size Package) IC.
6. IC6007 replacement note:
   When replacing this IC, be sure to write the initial data with PC-EVR Adjustment Program.
7. IC6001 replacement note:
   Two types of IC6001 (M32121FCAWG or M32121MCA123) are used on a running change basis, however IC6001 (M32121MCA123) is supplied only as a replacement part. When replacing IC6001, as in the following cases, it is necessary to replace the resistor at the same time or IC6001 may have a short life.

   - When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA123), be sure to move resistor (Ref. No. R6051) to the R6050 loacation.

Types of IC6001

M32121FCAWG	
M32121MCA123	


R6051
IC6001
R6050
IC6010
IC1002
IC1003
Q1101
Q1027
Q1010
Q6008

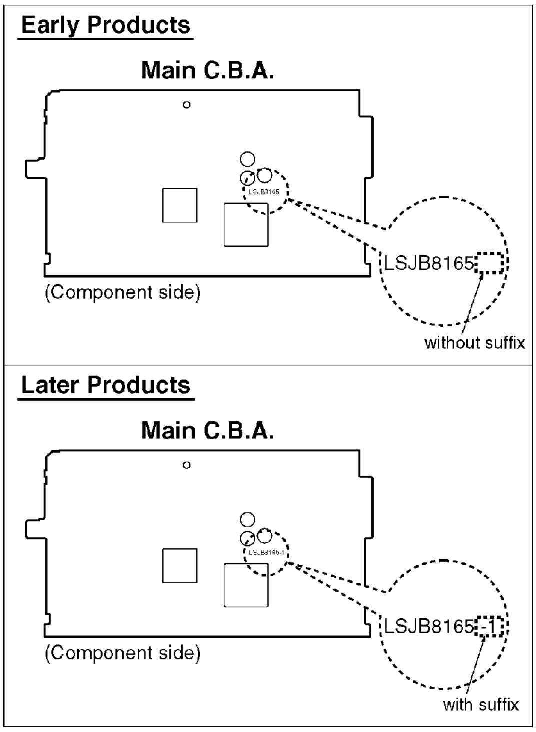
Main C.B.A. (foil side)

8. D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 replacement note:

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.

In early products: LSJB8165 (without suffix)

In later products: LSJB8165-1 etc. (with suffix)


Early Products
Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix
Later Products
Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

11.2. MECHANICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

MECHANICAL REPLACEMENT PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
1	LSXY0376	MECHANISM CHASSIS ASS'Y	1
2	LSKM0785	CASSETTE COVER A	1 *NOTE
4	LSMA0570	GROUNDING PLATE,STEEL	6
5	LSYK0831	MECHANISM BASE UNIT	6
6	LSKM0680	CASSETTE COVER B	1 *NOTE
7	LSMT0071	LENS CUSHION,RUBBER	1
11	LSYK0823	SIDE CASE L UNIT,ABS RESIN	1
14	LSGT0060	CASSETTE EJECT KNOB	5 *NOTE
15	LSMD0304	CASSETTE EJECT PIECE	5 *NOTE
20	LSMB0198	CASSETTE EJECT SPRING	5 *NOTE
22	LSFL0103	OPTICAL FILTER	3
31	LSYK0847	TOP CASE UNIT,ABS RESIN (A,B)	4 *NOTE
31	LSYK0848	TOP CASE UNIT,ABS RESIN (C)	4 *NOTE
33	LSGT0061	MAGICVU KNOB (C)	5 *NOTE
34	LSMT0074	LENS RUBBER	5 *NOTE
40	LSMG0106	EYE CAP	4 *NOTE
41	LSMD0770	EVF CASE,ABS RESIN	4 *NOTE
43	LSXA0456	EVF ANGLE UNIT	4 *NOTE
44	LSMD0327	LED HOLDER	4 *NOTE
50	LSYK0853	ELECTRONIC VIEWFINDER UNIT	4 *NOTE
51	LSSC0546	EVF ESD ANGLE	4 *NOTE
52	LSGT0063	EYE SIGHT LEVER B	4 *NOTE
53	LSMB0270	EYE SIGHT LEVER A	4 *NOTE
54	L5BDAXG00005	LIQUID CRYSTAL DISPLAY PANEL	4 *NOTE
55	LSKD0328	LENS HOLDER	4 *NOTE
56	LSFL0134	LENS	4 *NOTE
57	LSDL0212	LED DIFFUSION SHEET,PLASTIC	4 *NOTE
58	LSDL0210	PROTECT PLATE A,PLASTIC	4 *NOTE
59	LSMD0323	EVF PROTECT B	4 *NOTE
60	LSMD0322	EVF PROTECT A	4 *NOTE
63	LSMD0305	MAGICVU KNOB HOLDER (C)	5 *NOTE
64	LSFL0106	INFRARED CUT FILTER (A,B)	3
65	LSXN0023	LENS UNIT (A,B)	3
65	LSXN0021	LENS UNIT (C)	3
66	LSMG0095	FILTER RUBBER	3
68	LSEM0042	ZOOM MOTOR UNIT	3
69	LSEM0043	FOCUS MOTOR UNIT	3
71	LSKM0788	SIDE CASE R,ABS RESIN	5 *NOTE
72	LSMA0577	TRIPOD FRAME	5 *NOTE
76	LSMA0542	STRAP ANGLE	5 *NOTE
78	L0AA02A00037	SPEAKER (A,B)	1
78	L0AA02A00034	SPEAKER (C)	1
80	LSJW0028	FLEXIBLE FLAT CABLE W/OUT PLUG,7.2V	2 *NOTE
81	LSKM0758	FRONT CASE,ABS RESIN	2 *NOTE
82	LSGL0370	INFRARED PANEL	2 *NOTE

Ref. No.	Part No.	Part Name & Description	Remarks
83	LSMD0321	LENS HOOD	2 *NOTE
84	LSGK0089	LENS RING (A)	2 *NOTE
84	LSGK0113	LENS RING (B)	2 *NOTE
84	LSGK0114	LENS RING (C)	2 *NOTE
89	LSSC0540	FRONT ESD ANGLE	2 *NOTE
90	VMFW0100	SHEET,NYLON-RAYON	1
94	LSYK0833	LCD CASE A UNIT,ABS RESIN	5
95	LSKM0762	LCD CASE B,ABS RESIN (A,B)	5
95	LSKM0761	LCD CASE B,ABS RESIN (C)	5
96	LSXA0455	LCD SHAFT UNIT	5
98	LSXY0241	LIQUID CRYSTAL DISPLAY PANEL UNIT (A,B)	5
99	LSXY0353	LEAD LIGHT PANEL UNIT (A,B)	5
100	LSXY0205	LAMP UNIT (A,B)	5
101	LSPF0085	BAG,POLYETHYLENE	7
103	LSPG1291	PACKING CASE,PAPER (A)	7
103	LSPG1292	PACKING CASE,PAPER (B)	7
103	LSPG1293	PACKING CASE,PAPER (C)	7
104	LSTG1296	ACCESSORY PACKING CASE,PAPER	7
105	LSFC0016	SHOULDER STRAP	7
106	LSYF0521	LENS CAP UNIT	7
108	LSJA0310	DC CABLE W/PLUG	7
108	LSJA0288	DC CABLE W/PLUG	7
108	VJAW0042	DC CABLE W/PLUG	7
109	K2CB2CB00014	AC CORD W/PLUG	7 ⚠
110	PV-DAC11-D	AC ADAPTOR UNIT	7 ⚠
110	PV-DAC11-A	AC ADAPTOR UNIT	7 ⚠
112	LSJA0280	AUDIO/VIDEO CABLE W/PLUG	7
113	LSSQ0293	INFRARED REMOTE CONTROL UNIT	7
115	K1HA05CD0001	UNIVERSAL SERIAL BUS CABLE W/PLUG	7
118	RP-SD008BMK0	SD MEMORY CARD (B,C)	7
118	RP-SD008MMK0	SD MEMORY CARD (B,C)	7
119	LSFT0491	APPRICATION SOFTWARE CD-ROM (A)	7
119	LSFT0492	APPRICATION SOFTWARE CD-ROM (B,C)	7
120	LSQT0594A	INSTRUCTION BOOK(SPANISH) (A)	7
120	LSQT0596A	INSTRUCTION BOOK(SPANISH) (B,C)	7
121	VQLS7836	LABEL	7
122	LSGQ0066	HOOD STRAP	7
123	N9ZZ00000027	SECURITY TAG (A)	7
125	LSJP0831	AUDIO ADAPTOR	7
130	LSQT0595A	INSTRUCTION BOOK(ENGLISH) (A)	7
130	LSQT0597A	INSTRUCTION BOOK(ENGLISH) (B,C)	7
201	LSEG0001	CYLINDER UNIT	6
201	LSEG0012	CYLINDER UNIT	6
202	LSEM0041	CAPSTAN UNIT	6
203	LSMD0185	RAIL	6
204	LSDG0092	REDUCTION GEAR B	6
205	LSSR0004	MODE SWITCH	6
206	LSDG0093	CAM GEAR	6
207	LSDG0094	INTERMEDIATE GEAR	6
208	LSMB0180	CAPSTAN ADJUST SPRING	6
209	LSDV0010	TIMING BELT	6
210	LSDG0095	DRIVE PULLEY	6
211	LSDG0096	CENTER GEAR	6

Ref. No.	Part No.	Part Name & Description	Remarks
212	LSMA0364	T4 DRIVE ARM	6
213	LSML0099	TENSION DRIVE ARM	6
214	LSML0100	S BRAKE DRIVE LEVER	6
215	VXLS1122	LOCK LEVER UNIT	6
216	LSML0102	LOCK PICK LEVER	6
217	LSMD0186	GUIDE PIECE R	6
218	LSMD0187	GUIDE PIECE L	6
219	LSXP0018	DAMPER UNIT	6
220	LSSH0001	MEMORY IN CASSETTE SWITCH	6
221	LSMA0365	PINCH DRIVE ARM	6
223	VXLS1115	MAIN PLATE UNIT	6
224	LSEK0433	MECHANISM FLEXIBLE PRINTED CIRCUIT UNIT	6
225	LSEK0431	SENSOR FLEXIBLE PRINTED CIRCUIT UNIT	6
226	VEMS0335	LOADING MOTOR UNIT	6
228	VXLS1116	TENSION ARM UNIT	6
229	LSXL0085	T BRAKE UNIT	6
230	VXDS0215	MECHANISM COVER UNIT	6
231	VXLS1084	IDLER ARM UNIT	6
232	LSXR0002	S REEL TABLE	6
233	LSXR0003	T REEL TABLE	6
234	VXLS1123	PINCH ARM UNIT	6
235	VXAS4418	GARAGE UNIT	6
236	LSJB8181	DEW SENSOR	6
237	VMFW0045	SHEET,NYLON-RAYON	6
241	LSXD0017	CYLINDER BASE UNIT	6
242	LSXD0021	S POST UNIT	6
242	VXDS0210	S POST UNIT	6
243	VXLS1118	S ARM UNIT	6
244	LSXD0020	T POST UNIT	6
244	VXDS0209	T POST UNIT	6
245	VXLS1119	T ARM UNIT	6
261	LSKM0806	FRONT COVER (A,B)	5
261	LSKM0769	FRONT COVER (C)	5 *NOTE
262	LSYK0882	LCD EARTH PLEATE UNIT (C)	5
263	EDTCA34QA0	LIQUID CRYSTAL DISPLAY PANEL (C)	5
264	LSXY0354	LCD REFRECT FRAME UNIT (C)	5
265	A4GB9F000001	LAMP (C)	5
265	KC82D20T86CH	LAMP (C)	5
267	LSMB0274	LCD LOCK KNOB SPRING	5
268	LSGU0529	LCD LOCK KNOB	5
270	LSMZ0321	BOTHSIDE TAPE A (C)	5
271	LSMZ0322	BOTHSIDE TAPE B (C)	5
272	LSKF0433	EVR COVER	1
273	LSQL0880	LIGHT CAUTION LABEL	1
274	LSMD0326	EVF MASK	4 *NOTE
276	LSDL0211	PROTECT PLATE B,PLASTIC	4 *NOTE
277	LSJB8170	TOP FLEXIBLE PRINTED CIRCUIT	4 *NOTE
278	LSEK0450	SPEAKER CABLE W/PLUG,4.8V	1
280	LSMG0108	DAMPER RUBBER	6
281	LSGF0050	LIGHT PROTECOTR	2
282	LSMR0008	LIGHT REFLECTOR	2
283	LSLL0028	LAMP	2 ⚠
284	LSEK0409	LAMP SOCKET UNIT	2
285	LSGB0031	MULTIMEDIA CARD BADGE	1

[illegible]	[illegible]	MULTIMEDIA CARD BADGE	1

Ref. No.	Part No.	Part Name & Description	Remarks
286	LSEU03B55UU	DEW CABLE W/OUT PLUG,1V	6
287	LSMT0075	MASK CUSHION	4 *NOTE
288	LSMF0214	SHEET,NYLON-RAYON	4 *NOTE
289	LSMT0370	CUSHION,RUBBER	4 *NOTE
290	LSMT0076	CUSHION,RUBBER	2 *NOTE
301	LSYK0835	FRONT CASE UNIT,ABS RESIN (A)	2
301	LSYK0923	FRONT CASE UNIT,ABS RESIN (B)	2
301	LSYK0836	FRONT CASE UNIT,ABS RESIN (C)	2
302	LSYK0839	FRONT COVER UNIT (C)	5
303	LSYK0858	TOP/ELECTRONIC VIEWFINDER UNIT (A,B)	4
303	LSYK0859	TOP/ELECTRONIC VIEWFINDER UNIT (C)	4
304	LSYK0844	CASSETTE COVER UNIT	1
305	LSYK0843	SIDE CASE R UNIT,ABS RESIN	5
402	XQN2+BJ4FXK	SCREW,STEEL	4,5
403	XQN2+BF4FXK	SCREW,STEEL	5
404	XQN2+BJ5FXK	SCREW,STEEL	1,2,4,5
407	XQN2+BF4FN	SCREW,STEEL	4 *NOTE
413	LSHD0051	SCREW,STEEL	6
416	XQN2+BJ3FXK	SCREW,STEEL	4
422	XQN16+CJ5FY	SCREW,STEEL	3
429	XQN14+B35	SCREW,STEEL	6
432	XQN14+B2	SCREW,STEEL	6
471	XQN14+B35FNK	SCREW,STEEL	6
473	VMX2026	CUT WASHER,STEEL	6
475	VMX2750	CUT WASHER,STEEL	6
477	VMX2028	CUT WASHER,STEEL	6
478	XQN14+B12FN	SCREW,STEEL	6
503	LSHD0073	SCREW,STEEL	6
504	XQN2+B35	SCREW,STEEL	6
507	XQN14+BJ4	SCREW,STEEL	3
509	XQN2+BF8FN	SCREW,STEEL	5
510	XQN2+BF5FXK	SCREW,STEEL	1
511	XQN2+BF3FN	SCREW,STEEL (A,B)	5
701	LSEK0446	ELECTORIC CONDENSER MICROPHONE UNIT (A,B)	4 *NOTE
701	LSEK0447	ELECTORIC CONDENSER MICROPHONE UNIT (C)	4 *NOTE
703	LSMG0111	MICROPHONE DUMPER	4 *NOTE
705	LSJW0033	FLEXIBLE FLAT CABLE W/OUT PLUG,4.8V	4 *NOTE
721	VMZW0660	INSULATION SHEET,PLASTIC	5
731	LSSB0004	BATTERY	1
735	LSEP8172A1	SD HOLDER UNIT NR	1
E10	LSEP8165B1	MAIN C.B.A. (A)	1
E10	LSEP8165C1	MAIN C.B.A. (B)	1
E10	LSEP8165D1	MAIN C.B.A. (C)	1
E20	LSEP8183A1	REAR C.B.A. (A)	1 RTL
E20	LSEP8183B1	REAR C.B.A. (B,C)	1 RTL
E30	LSXM0023	MICROPHONE C.B.A. (A,B)	4 RTL
E30	LSXM0024	MICROPHONE C.B.A. (C)	4 RTL
E40	LSEP8167B1	FRONT C.B.A. (A,B)	2 RTL
E40	LSEP8167C1	FRONT C.B.A. (C)	2 RTL
E50	LSEP8169A1	EVF BACK LIGHT C.B.A.	4 RTL *NOTE
E60	LSEP8188A1	LIQUID CRYSTAL DISPLAY C.B.A. (A,B)	5 RTL
E60	LSEP8178A1	LIQUID CRYSTAL DISPLAY C.B.A. (C)	5 RTL
E70	LSEQ0618	CCD C.B.A. NR	3
E80	LSEP8177A1	TOP OPERATION C.B.A. NR	4

SERVICE FIXTURES AND TOOLS

Ref. No.	Part No.	Part Name & Description	Remarks
	VFM3010EDS	COLOR BAR STANDARD TAPE	VED
	VFK1451	DVC HEAD CLEANING TAPE	VED
	LSVQ0041	TAPE PATH ALIGNMENT TAPE	
	LSVQ0028	PLIER FOR NON ZIF CONNECTOR	
	VFKW0124A	EXTENSION CABLE 14P	
	VUVS0012	EXTENSION CABLE 22P	
	LSUA0017	EXTENSION CABLE 18P	
	LSUA0016	EXTENSION CABLE 10P	
	VUVS0007	EXTENSION CABLE 12P	
	VUVS0015	EXTENSION CABLE 28P	
	LSUA0030	EXTENSION CABLE 11P	
	LSUA0020	EXTENSION CABLE 20P	
	LSVQ0020	CAPSTAN TILT ADJUSTMENT TOOL	
	LSUQ0002	GREASE	
	VFKS0081	GREASE	
	VFK1164LBX1	LIGHT BOX	VED
	VFK1164TCM02	INFINITY LENS (WITH FOCUS CHART)	VED
	VFK1164TAR43	43mm RING	VED
	VFK1164TFCT2	COLOR CONVERSION FILTER (C14)	VED
	LSVQ0021	POST HEIGHT ADJUSTMENT FIXTURE	
	LSUP0016	CAMERA CONNECTING CABLE	
	LSUP0007	INTERFACE BOARD FOR ELECTRICAL ADJUSTMENT	
	VFK1164TFWC2	WHITE CHART	VED
	VFK1164TFCB2	COLOR BAR CHART	VED
	VFK1164TFGS2	GRAY SCALE CHART	VED

11.3. ELECTRICAL REPLACEMENT PARTS LIST

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

PRINTED CIRCUIT BOARD ASSEMBLY

Ref. No.	Part No.	Part Name & Description	Remarks
E10	LSEP8165B1	MAIN C.B.A. (A)	E.S.D.
E10	LSEP8165C1	MAIN C.B.A. (B)	E.S.D.
E10	LSEP8165D1	MAIN C.B.A. (C)	E.S.D.
E20	LSEP8183A1	REAR C.B.A. (A)	RTL
E20	LSEP8183B1	REAR C.B.A. (B,C)	RTL
E30	LSXM0023	MICROPHONE C.B.A. (A,B)	RTL
E30	LSXM0024	MICROPHONE C.B.A. (C)	RTL
E40	LSEP8167B1	FRONT C.B.A. (A,B)	RTL
E40	LSEP8167C1	FRONT C.B.A. (C)	RTL
E50	LSEP8169A1	EVF BACK LIGHT C.B.A.	RTL *NOTE
E60	LSEP8178A1	LIQUID CRYSTAL DISPLAY C.B.A. (C)	RTL
E60	LSEP8188A1	LIQUID CRYSTAL DISPLAY C.B.A. (A,B)	RTL
E70	LSEQ0618	CCD C.B.A. NR	E.S.D.
E80	LSEP8177A1	TOP OPERATION C.B.A. NR	

11.3.1. MAIN C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC301	MN52A2	IC, LOGIC	E.S.D.
IC302	MN31121SA-E1	IC, LOGIC	E.S.D.
IC401	MN103001GEA1	IC, 32BIT MICROCONTROLLER	E.S.D.
IC402	PDIUSBD12	IC, LOGIC	E.S.D.
IC501	AD9843AJST	IC, LINEAR	
IC502	XC62FP2902MR	IC, CMOS STANDARD LOGIC	E.S.D.
IC701	LB1837MLTEL3	IC, LINEAR	
IC701	LB1837M-TE-L	IC, LINEAR	
IC701	LB1837MTEL3	IC, LINEAR	
IC702	LB1837MLTEL3	IC, LINEAR	
IC702	LB1837M-TE-L	IC, LINEAR	
IC702	LB1837MTEL3	IC, LINEAR	
IC703	C0ABCZ000008	IC, LINEAR	
IC703	C0ABCA000059	IC, LINEAR	
IC703	C0ABCA000064	IC, LINEAR	
IC703	C0ABCZ000008	IC, LINEAR	
IC704	C0CBAEE00002	IC, CMOS STANDARD LOGIC	E.S.D.
IC901	C0HBA0000070	IC, LINEAR	
IC1001	C0DBCMC00003	IC, LINEAR	
IC1002	C0DBEFB00001	IC, LINEAR	
IC1003	C0DBEFB00001	IC, LINEAR	
IC2001	LB11954W-MPB	IC, LINEAR	
IC3001	C1AB00001130	IC, LOGIC	E.S.D.
IC3002	AN2903FJQ-V	IC, LINEAR	
IC3201	C1AB00001132	IC, LOGIC	E.S.D.
IC3201	C1AB00001490	IC, LOGIC	E.S.D.
IC3202	SN104290GGM	IC, LOGIC	E.S.D.

Ref. No.	Part No.	Part Name & Description	Remarks
IC3202	C1AB00001612	IC, LOGIC	E.S.D.
IC4301	C0FBZH000013	IC, LOGIC	E.S.D.
IC5001	AN3732FJMEFV	IC, LINEAR	
IC6001	M32121MCA123	IC, 32BIT MICROCONTROLLER *See Replacement Note	E.S.D.
IC6003	C0CBCBC00023	IC, CMOS STANDARD LOGIC	E.S.D.
IC6004	C0EBD0000123	IC, CMOS STANDARD LOGIC	E.S.D.
IC6005	C0ABCZ000008	IC, LINEAR	
IC6005	C0ABCA000059	IC, LINEAR	
IC6005	C0ABCA000064	IC, LINEAR	
IC6005	C0ABCZ000008	IC, LINEAR	
IC6007	C3EBFG000007	IC, 16K EEP ROM	E.S.D.
IC6007	C3EBFG000009	IC, 16K EEP ROM	E.S.D.
IC6008	C1ZBZ0001483	IC, LOGIC	E.S.D.
IC6010	C0CBCAC00024	IC, CMOS STANDARD LOGIC	E.S.D.
IC6011	C0CBCAC00026	IC, CMOS STANDARD LOGIC	E.S.D.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q401	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q401	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q702	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q702	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q703	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q703	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q704	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q704	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q705	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q705	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q706	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q706	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q707	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q707	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q708	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q708	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q901	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q901	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q902	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q902	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1001	UNR9111J08	TRANSISTOR SI PNP CHIP	
Q1001	B1GDCFJJ0027	TRANSISTOR SI PNP CHIP	
Q1003	UNR9115J08	TRANSISTOR SI PNP CHIP	
Q1003	B1GDCFJA0015	TRANSISTOR SI PNP CHIP	
Q1004	B1ZBZ0000027	TRANSISTOR SI PNP CHIP	
Q1005	B1ZBZ0000027	TRANSISTOR SI PNP CHIP	
Q1006	B1ZBZ0000027	TRANSISTOR SI PNP CHIP	
Q1007	2SA204600L	TRANSISTOR SI PNP CHIP	
Q1007	B1ADMD000009	TRANSISTOR SI PNP CHIP	
Q1008	XN09D6100L	TRANSISTOR SI PNP CHIP	
Q1008	B1ZBZ0000035	TRANSISTOR SI PNP CHIP	
Q1009	XN09D6100L	TRANSISTOR SI PNP CHIP	
Q1009	B1ZBZ0000035	TRANSISTOR SI PNP CHIP	
Q1010	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1010	B1ABPB000001	TRANSISTOR SI PNP CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q1018	2SB09700RL	TRANSISTOR SI PNP CHIP	
Q1019	UNR9212J08	TRANSISTOR SI NPN CHIP	
Q1019	B1GBCFLL0024	TRANSISTOR SI NPN CHIP	
Q1021	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1021	B1ABPB000001	TRANSISTOR SI PNP CHIP	
Q1023	B1ABCF000098	TRANSISTOR SI NPN CHIP	
Q1023	B1ABCF000099	TRANSISTOR SI NPN CHIP	
Q1024	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1024	B1ABPB000001	TRANSISTOR SI PNP CHIP	
Q1025	XP0450100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q1026	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q1026	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1027	2SC559200L	TRANSISTOR SI NPN CHIP	
Q1027	B1ABPB000001	TRANSISTOR SI PNP CHIP	
Q1028	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q1028	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1030	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1030	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1031	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q1031	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1032	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q1032	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1033	2SB1218A0L	TRANSISTOR SI PNP CHIP	
Q1033	B1ADCF000063	TRANSISTOR SI PNP CHIP	
Q1101	B1BDEB000001	TRANSISTOR SI PNP CHIP	
Q1102	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q1102	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q1103	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q1103	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1104	2SD2216J08	TRANSISTOR SI NPN CHIP	
Q1104	B1ABCF000104	TRANSISTOR SI NPN CHIP	
Q1105	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q1105	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q1106	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q1106	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q2001	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q2001	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q6001	2SD0601A0L	TRANSISTOR SI NPN CHIP (C)	
Q6001	B1ABCF000011	TRANSISTOR SI NPN CHIP (C)	
Q6002	2SD0601A0L	TRANSISTOR SI NPN CHIP (C)	
Q6002	B1ABCF000011	TRANSISTOR SI NPN CHIP (C)	
Q6003	2SB1218A0L	TRANSISTOR SI PNP CHIP (C)	
Q6003	B1ADCF000063	TRANSISTOR SI PNP CHIP (C)	
Q6004	2SB1218A0L	TRANSISTOR SI PNP CHIP (C)	
Q6004	B1ADCF000063	TRANSISTOR SI PNP CHIP (C)	
Q6005	UNR9215J08	TRANSISTOR SI NPN CHIP	
Q6005	B1GBCFJA0012	TRANSISTOR SI NPN CHIP	
Q6006	UNR9213J08	TRANSISTOR SI NPN CHIP	
Q6006	B1GBCFNN0029	TRANSISTOR SI NPN CHIP	
Q6007	2SD1820A	TRANSISTOR SI NPN CHIP	
Q6007	B1ABGD000017	TRANSISTOR SI NPN CHIP	
Q6008	2SB09700RL	TRANSISTOR SI PNP CHIP	
Q6008	2SB1585	TRANSISTOR SI PNP CHIP	
Q6009	2SD1819A0L	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q6009	B1ABCF000020	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D701	MA2S728008	DIODE SI CHIP	
D701	B0JCDD000002	DIODE SI CHIP	
D701	MA2S72800L	DIODE SI CHIP	
D901	MAZ81000LL	DIODE ZENER CHIP 10V	
D1002	MA2J111008	DIODE SI CHIP	
D1002	B0ACCK000005	DIODE SI CHIP	
D1002	MA2J11100L	DIODE SI CHIP	
D1003	MA2J111008	DIODE SI CHIP	
D1003	B0ACCK000005	DIODE SI CHIP	
D1003	MA2J11100L	DIODE SI CHIP	
D1005	MA2J111008	DIODE SI CHIP	
D1005	B0ACCK000005	DIODE SI CHIP	
D1005	MA2J11100L	DIODE SI CHIP	
D1006	MAZ81000HL	DIODE ZENER CHIP 10V	
D1007	MAZ80620HL	DIODE ZENER CHIP 6.2V	
D1101	RD12S-T1B	DIODE ZENER CHIP 12V *See Replacement Note	
D1102	MA2J111008	DIODE SI CHIP	
D1102	B0ACCK000005	DIODE SI CHIP	
D1102	MA2J11100L	DIODE SI CHIP	
D3001	MA2S111008	DIODE SI CHIP	
D3001	B0ACCK000003	DIODE SI CHIP	
D3001	MA2S11100L	DIODE SI CHIP	
D6001	B0JCDD000002	DIODE SI CHIP	
D6002	MA2S728008	DIODE SI CHIP	
D6002	B0JCDD000002	DIODE SI CHIP	
D6002	MA2S72800L	DIODE SI CHIP	
D6003	MA2S728008	DIODE SI CHIP	
D6003	B0JCDD000002	DIODE SI CHIP	
D6003	MA2S72800L	DIODE SI CHIP	
D6004	MA2S728008	DIODE SI CHIP	
D6004	B0JCDD000002	DIODE SI CHIP	
D6004	MA2S72800L	DIODE SI CHIP	
D6005	MA3J14700L	DIODE SI CHIP	
D6006	MA2S111008	DIODE SI CHIP	
D6006	B0ACCK000003	DIODE SI CHIP	
D6006	MA2S11100L	DIODE SI CHIP	
D6007	B0JCDD000002	DIODE SI CHIP	
D6011	MA2S728008	DIODE SI CHIP	
D6011	B0JCDD000002	DIODE SI CHIP	
D6011	MA2S72800L	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R301	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R305	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R306	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R307	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R308	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R309	ERJ2GEJ221X	MGF CHIP 1/16W 220	
R310	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R312	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R313	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R314	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R315	ERJ3GEYJ100V	MGF CHIP 1/16W 10	
R317	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R401	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R402	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R403	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R404	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R405	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R406	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R407	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R408	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R409	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R410	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R411	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R413	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R414	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R415	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R418	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R420	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R421	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R422	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R423	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R424	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R425	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R426	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R430	ERJ8GEYF180V	MGF CHIP 1/16W 18	
R432	ERJ8GEYF180V	MGF CHIP 1/16W 18	
R437	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R439	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R440	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R441	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R442	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R443	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R444	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R445	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R446	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R447	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R448	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R449	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R501	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R701	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R702	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R703	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R704	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R705	ERJ2GEJ183X	MGF CHIP 1/16W 18K	

Ref. No.	Part No.	Part Name & Description	Remarks
R706	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R707	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R708	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R709	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R710	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R711	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R712	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R713	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R714	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R715	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R716	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R717	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R718	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R720	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R721	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R722	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R723	ERJ2GEJ114X	MGF CHIP 1/16W 110K	
R724	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R725	ERJ2GEJ363X	MGF CHIP 1/16W 36K	
R726	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R727	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R728	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R729	ERJ6GEYJ5R6V	MGF CHIP 1/10W 5.6	
R730	ERJ2GEJ124X	MGF CHIP 1/16W 120K	
R732	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R733	ERJ2GEJ184X	MGF CHIP 1/16W 180K	
R735	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R736	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R737	ERJ2GEJ224X	MGF CHIP 1/16W 220K	
R738	ERJ2GEJ394X	MGF CHIP 1/16W 390K	
R739	ERJ2GEJ823X	MGF CHIP 1/16W 82K	
R741	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R742	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R743	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R744	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R745	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R746	ERJ2GEJ152X	MGF CHIP 1/16W 1.5K	
R747	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R748	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R749	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
R750	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R751	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R752	ERJ3GEYJ565V	MGF CHIP 1/16W 5.6M	
R753	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R754	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R756	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R759	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R760	ERJ2GEJ274X	MGF CHIP 1/16W 270K	
R761	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R762	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R764	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R765	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R766	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R767	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R770	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R771	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R773	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R901	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R902	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R903	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R904	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R909	ERJ2GEJ122X	MGF CHIP 1/16W 1.2K	
R911	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R912	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R913	ERJ2GEJ112X	MGF CHIP 1/16W 1.1K	
R917	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R918	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R919	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R920	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R922	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R923	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R926	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R927	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1001	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R1002	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R1005	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R1006	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R1007	D0HB243ZA002	MGF CHIP 1/16W 24K	
R1008	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R1009	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R1010	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R1011	ERJ2GEJ124X	MGF CHIP 1/16W 120K	
R1012	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1013	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1014	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R1015	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1016	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1017	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R1018	ERJ2GEJ151X	MGF CHIP 1/16W 150	
R1019	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R1020	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1021	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R1022	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1023	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R1024	D0HA682ZA001	MGF CHIP 1/16W 6.8K	
R1025	D0HA820ZA002	MGF CHIP 1/16W 82	
R1026	D0HA820ZA002	MGF CHIP 1/16W 82	
R1027	D0HA302ZA001	MGF CHIP 1/16W 3K	
R1028	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R1030	D0HA272ZA001	MGF CHIP 1/16W 2.7K	
R1031	D0HA820ZA002	MGF CHIP 1/16W 82	
R1032	D0HA820ZA002	MGF CHIP 1/16W 82	
R1033	D0HA302ZA001	MGF CHIP 1/16W 3K	
R1034	D0HA101ZA001	MGF CHIP 1/16W 100	
R1036	D0HA681ZA001	MGF CHIP 1/16W 680	
R1037	D0HA820ZA002	MGF CHIP 1/16W 82	
R1038	D0HA820ZA002	MGF CHIP 1/16W 82	
R1039	D0HA302ZA001	MGF CHIP 1/16W 3K	

Ref. No.	Part No.	Part Name & Description	Remarks
R1040	**ERJ2GE0R00X**	**MGF CHIP 1/16W 0**	
R1042	**ERJ3GEYJ470V**	**MGF CHIP 1/16W 47**	
R1043	**VRJSQ6D273Z**	**MGF CHIP 1/16W 27K**	
R1044	**D0HA820ZA002**	**MGF CHIP 1/16W 82**	
R1045	**D0HA820ZA002**	**MGF CHIP 1/16W 82**	
R1046	**D0HA302ZA001**	**MGF CHIP 1/16W 3K**	
R1047	**ERJ2GE0R00X**	**MGF CHIP 1/16W 0**	
R1048	**ERJ2GEJ471X**	**MGF CHIP 1/16W 470**	
R1049	**ERJ2GEJ221X**	**MGF CHIP 1/16W 220**	
R1050	**D0HA272ZA001**	**MGF CHIP 1/16W 2.7K**	
R1051	**VRJSQ6D104Z**	**MGF CHIP 1/16W 100K**	
R1052	**ERJ2GEJ472X**	**MGF CHIP 1/16W 4.7K**	
R1053	**ERJ2GEJ103X**	**MGF CHIP 1/16W 10K**	
R1054	**ERJ2GEJ472X**	**MGF CHIP 1/16W 4.7K**	
R1055	**ERJ2GEJ472X**	**MGF CHIP 1/16W 4.7K**	
R1056	**ERJ2GEJ102X**	**MGF CHIP 1/16W 1K**	
R1057	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1058	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1063	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1064	**ERJ2GEJ472X**	**MGF CHIP 1/16W 4.7K**	
R1069	**ERJ2GEJ271X**	**MGF CHIP 1/16W 270**	
R1070	**ERJ2GEJ470X**	**MGF CHIP 1/16W 47**	
R1071	**D0HA472ZA001**	**MGF CHIP 1/16W 4.7K**	
R1072	**D0HA153ZA001**	**MGF CHIP 1/16W 15K**	
R1073	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1074	**ERJ2GEJ221X**	**MGF CHIP 1/16W 220**	
R1075	**ERJ2GEJ560X**	**MGF CHIP 1/16W 56**	
R1078	**ERJ2GEJ221X**	**MGF CHIP 1/16W 220**	
R1079	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1080	**ERJ2GEJ103X**	**MGF CHIP 1/16W 10K**	
R1081	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1082	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1085	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1086	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1087	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1088	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1089	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1090	**ERJ2GEJ151X**	**MGF CHIP 1/16W 150**	
R1091	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1092	**ERJ2GEJ332X**	**MGF CHIP 1/16W 3.3K**	
R1097	**ERJ2GEJ154X**	**MGF CHIP 1/16W 150K**	
R1101	**ERJ8GEYJR56V**	**MGF CHIP 1/8W 0.56**	
R1102	**ERJ8GEYJR56V**	**MGF CHIP 1/8W 0.56**	
R1103	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1104	**ERJ2GEJ101X**	**MGF CHIP 1/16W 100**	
R1105	**ERJ2GEJ222X**	**MGF CHIP 1/16W 2.2K**	
R1106	**ERJ2GEJ471X**	**MGF CHIP 1/16W 470**	
R1107	**ERJ2GEJ472X**	**MGF CHIP 1/16W 4.7K**	
R1108	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1109	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	
R1110	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1111	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1112	**ERJ2GEJ223X**	**MGF CHIP 1/16W 22K**	
R1113	**ERJ2GEJ473X**	**MGF CHIP 1/16W 47K**	

Ref. No.	Part No.	Part Name & Description	Remarks
R1114	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R2001	ERJ2GEJ122X	MGF CHIP 1/16W 1.2K	
R2002	ERJ2GEJ393X	MGF CHIP 1/16W 39K	
R2003	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R2004	ERJ2GEJ683X	MGF CHIP 1/16W 68K	
R2005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2006	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R2007	ERJ2GEJ824X	MGF CHIP 1/16W 820K	
R2008	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R2009	ERJ2GEJ225X	MGF CHIP 1/16W 2.2M	
R2010	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R2011	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R2012	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R2013	ERJ2GEJ225X	MGF CHIP 1/16W 2.2M	
R2014	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R2015	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2016	ERJ8GEYJR27V	MGF CHIP 1/8W 0.27	
R2017	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R2018	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R2019	ERJ2GEJ471X	MGF CHIP 1/16W 470	
R2020	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R2021	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R2022	ERJ2GEJ333X	MGF CHIP 1/16W 33K	
R2026	ERJ8GEY0R00V	MGF CHIP 1/8W 0	
R3001	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3005	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3006	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R3010	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3011	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3015	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3016	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3019	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3020	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3024	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3025	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R3026	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3030	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3031	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R3032	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3033	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3034	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3101	ERJ2GEJ750X	MGF CHIP 1/16W 75 (B,C)	
R3102	ERJ2GEJ680X	MGF CHIP 1/16W 68 (B,C)	
R3103	ERJ2GEJ680X	MGF CHIP 1/16W 68	
R3107	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3108	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K (B,C)	
R3109	ERJ2GEJ391X	MGF CHIP 1/16W 390 (B,C)	
R3111	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R3112	ERJ2GEJ391X	MGF CHIP 1/16W 390	
R3114	ERJ2GEJ103X	MGF CHIP 1/16W 10K (B,C)	
R3115	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R3116	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R3117	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3201	ERJ2GEJ102X	MGF CHIP 1/16W 1K	

Ref. No.	Part No.	Part Name & Description	Remarks
R3202	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R3203	ERJ2GEJ470X	MGF CHIP 1/16W 47	
R3204	ERJ2RKF2871X	MGF CHIP 1/16W 2.87K	
R3205	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3206	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R3207	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R3208	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R3209	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R3210	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3211	ERJ2GEJ223X	MGF CHIP 1/16W 22K	
R3212	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R3251	ERJ2GEJ330X	MGF CHIP 1/16W 33	
R3252	ERJ2GEJ330X	MGF CHIP 1/16W 33	
R3253	ERJ2GEJ330X	MGF CHIP 1/16W 33	
R3254	ERJ2GEJ330X	MGF CHIP 1/16W 33	
R3255	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3256	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R3257	ERJ2RHD622X	MGF CHIP 1/16W 6.2K	
R3258	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R3259	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3260	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3261	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3262	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R3263	ERJ2GEJ220X	MGF CHIP 1/16W 22	
R3264	ERJ2GEJ220X	MGF CHIP 1/16W 22	
R3265	ERJ2GEJ220X	MGF CHIP 1/16W 22	
R3266	ERJ2GEJ220X	MGF CHIP 1/16W 22	
R3502	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R3902	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R3903	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R4305	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R4501	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R4503	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R4504	ERJ2GEJ100X	MGF CHIP 1/16W 10	
R4505	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R4506	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R4507	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R4508	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R4510	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R4512	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R4513	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R4514	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R4515	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R4516	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R4517	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R5005	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5006	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5007	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5008	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R5009	ERJ2GEJ182X	MGF CHIP 1/16W 1.8K	
R5010	ERJ2GEJ682X	MGF CHIP 1/16W 6.8K	
R5011	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6001	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6003	ERJ3GEYJ390V	MGF CHIP 1/16W 39 (C)	

Ref. No.	Part No.	Part Name & Description	Remarks
R6004	ERJ3GEYJ390V	MGF CHIP 1/16W 39 (C)	
R6005	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6006	ERJ2GEJ333X	MGF CHIP 1/16W 33K (C)	
R6007	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6008	ERJ2GEJ331X	MGF CHIP 1/16W 330 (C)	
R6009	ERJ2GEJ103X	MGF CHIP 1/16W 10K (C)	
R6010	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K (C)	
R6011	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K (C)	
R6012	ERJ2GEJ272X	MGF CHIP 1/16W 2.7K (C)	
R6013	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6014	ERJ2GEJ474X	MGF CHIP 1/16W 470K	
R6015	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6016	ERJ2GEJ274X	MGF CHIP 1/16W 270K	
R6017	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6019	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6020	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6021	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6024	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6027	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6028	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6029	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6030	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6031	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6032	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6033	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6034	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6035	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6036	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6037	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6038	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6039	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6040	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6041	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6042	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R6043	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6044	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6045	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6046	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6047	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6048	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6049	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6050	ERJ2GE0R00X	MGF CHIP 1/16W 0 *See Replacement Note	
R6051	ERJ2GE0R00X	MGF CHIP 1/16W 0 *See Replacement Note	
R6054	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6055	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6056	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6057	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6058	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6059	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6060	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6061	ERJ2GEJ563X	MGF CHIP 1/16W 56K	
R6062	ERJ2GEJ392X	MGF CHIP 1/16W 3.9K	
R6063	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6064	ERJ2GEJ154X	MGF CHIP 1/16W 150K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6065	ERJ2GEJ154X	MGF CHIP 1/16W 150K	
R6066	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6067	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6068	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6069	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6070	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6071	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6072	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6073	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6074	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6075	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6076	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6077	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6078	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6079	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6080	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6081	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6082	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6083	ERJ8GEYJ270V	MGF CHIP 1/8W 27	
R6084	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6085	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6086	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6087	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6088	ERJ8GEYJ220V	MGF CHIP 1/8W 22	
R6089	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6090	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6091	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6092	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6093	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6094	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6095	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6096	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6097	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6098	ERJ2GEJ394X	MGF CHIP 1/16W 390K	
R6099	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6100	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6101	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6102	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6103	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6104	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6105	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R6106	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6107	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6108	ERJ2GEJ331X	MGF CHIP 1/16W 330	
R6109	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6110	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6111	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6112	ERJ2GEJ123X	MGF CHIP 1/16W 12K	
R6113	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6114	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R6115	ERJ2GEJ272X	MGF CHIP 1/16W 2.7K	
R6117	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6118	ERJ2GEJ273X	MGF CHIP 1/16W 27K	
R6119	ERJ2GEJ123X	MGF CHIP 1/16W 12K	

Ref. No.	Part No.	Part Name & Description	Remarks
R6120	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6121	ERJ2GEJ822X	MGF CHIP 1/16W 8.2K	
R6123	ERJ2GEJ272X	MGF CHIP 1/16W 2.7K	
R6124	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6125	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6126	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6128	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6129	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6130	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6131	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R6132	ERJ8GEYJ101V	MGF CHIP 1/8W 100	
R6133	ERJ2GEJ183X	MGF CHIP 1/16W 18K	
R6134	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6135	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6136	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6137	ERJ2RHD513X	MGF CHIP 1/16W 51K	
R6138	ERJ2RHD183X	MGF CHIP 1/16W 18K	
R6139	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R6140	ERJ2GE0R00X	MGF CHIP 1/16W 0	
R6141	ERJ2GEJ222X	MGF CHIP 1/16W 2.2K	
R6142	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6143	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K (B,C)	
R6144	ERJ2GEJ681X	MGF CHIP 1/16W 680	
R6145	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6146	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6147	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6148	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6149	ERJ2GEJ104X	MGF CHIP 1/16W 100K	
R6150	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6151	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6152	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6153	ERJ2GEJ332X	MGF CHIP 1/16W 3.3K	
R6154	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6155	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R6156	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6157	ERJ2GEJ153X	MGF CHIP 1/16W 15K	
R6158	ERJ2GEJ562X	MGF CHIP 1/16W 5.6K	
R6159	ERJ2GEJ105X	MGF CHIP 1/16W 1M	
R6160	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6161	ERJ2GEJ101X	MGF CHIP 1/16W 100	
R6162	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6163	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6164	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6165	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6166	ERJ3GEYJ470V	MGF CHIP 1/16W 47	
R6167	ERJ2GEJ473X	MGF CHIP 1/16W 47K	
R6168	ERJ2GEJ472X	MGF CHIP 1/16W 4.7K	
R6169	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6170	ERJ2GEJ102X	MGF CHIP 1/16W 1K	
R6174	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6175	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
R6177	ERJ2GE0R00X	MGF CHIP 1/16W 0	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C301	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C302	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C303	ECJ1VF1A105Z	C CHIP 10V 1UF	
C305	ECUE1C104ZFV	C CHIP 16V 0.1UF	
C308	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C310	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C311	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C312	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C313	ECJ3YF1C475Z	C CHIP 16V 4.7UF	
C401	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C402	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C403	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C404	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C405	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C406	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C407	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C410	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C502	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C503	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C504	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C505	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C506	ECJ1VF1A105Z	C CHIP 10V 1UF	
C507	ECJ1VF1A105Z	C CHIP 10V 1UF	
C508	ECUE1C104ZFV	C CHIP 16V 0.1UF	
C509	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C510	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C511	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C512	ECJ1VF1A105Z	C CHIP 10V 1UF	
C701	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C702	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C703	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C704	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C706	ECJ2YF1A475Z	C CHIP 10V 4.7UF	
C708	ECEV1CA100S	ELECTROLYTIC CHIP 16V 10UF	
C709	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C711	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C714	ECJ0EB1H102K	C CHIP 50V 1000PF	
C715	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C716	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C719	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C720	ECJ1VF1A105Z	C CHIP 10V 1UF	
C722	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C902	F1J1C1050011	C CHIP 16V 1UF	
C903	ECJ2YB1A105K	C CHIP 10V 1UF	
C904	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C905	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C906	ECJ2YB1A105K	C CHIP 10V 1UF	
C907	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C908	ECJ2YB1A105K	C CHIP 10V 1UF	
C909	ECJ0EB1C223K	C CHIP 16V 0.022UF	
C910	ECJ0EB1H102K	C CHIP 50V 1000PF	

Ref. No.	Part No.	Part Name & Description	Remarks
C911	ECJ1VF1A105Z	C CHIP 10V 1UF	
C913	ECJ0EF1H103Z	C CHIP 50V 0.01UF	
C914	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C915	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C916	F1K1C105A023	C CHIP 16V 1UF	
C917	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1001	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C1002	ECJ1VB0J474K	C CHIP 6.3V 0.47UF	
C1003	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C1004	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1005	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C1006	ECJ0EC1H101J	C CHIP 50V 100PF	
C1007	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C1008	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1009	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C1010	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C1013	ECJ0EB1E472K	C CHIP 25V 4700PF	
C1016	ECJ0EB1E472K	C CHIP 25V 4700PF	
C1019	ECJ0EC1H101J	C CHIP 50V 100PF	
C1020	ECJ0EC1H101J	C CHIP 50V 100PF	
C1022	ECJ0EC1H101J	C CHIP 50V 100PF	
C1024	ECJ0EC1H101J	C CHIP 50V 100PF	
C1025	ECJ0EC1H470J	C CHIP 50V 47PF	
C1026	ECJ0EC1H470J	C CHIP 50V 47PF	
C1027	ECJ0EC1H470J	C CHIP 50V 47PF	
C1028	ECJ0EC1H470J	C CHIP 50V 47PF	
C1029	ECJ2VF1C105Z	C CHIP 16V 1UF	
C1030	ECEV1CA220S	ELECTROLYTIC CHIP 16V 22UF	
C1032	F1L1C106A011	C CHIP 16V 10UF	
C1034	F1J0J4750004	C CHIP 6.3V 0.47UF	
C1036	F1J0J4750004	C CHIP 6.3V 0.47UF	
C1038	F1J0J4750004	C CHIP 6.3V 0.47UF	
C1039	F1J1C1050011	C CHIP 16V 1UF	
C1040	VCUSQBH105ZF	C CHIP 50V 1UF	
C1041	F1J1C1050011	C CHIP 16V 1UF	
C1042	F1J1C1050011	C CHIP 16V 1UF	
C1043	ECJ0EB1H681K	C CHIP 50V 680PF	
C1046	ECJ0EB1H152K	C CHIP 50V 1500PF	
C1048	ECJ0EB1H222K	C CHIP 50V 2200PF	
C1050	ECJ0EB1H102K	C CHIP 50V 1000PF	
C1051	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1053	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1055	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1056	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1057	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1058	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1059	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1060	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C1062	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1063	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1064	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1065	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C1067	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1068	ECUV0J105KBV	C CHIP 6.3V 1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C1069	ECST0JZ106R	TANTALUM CHIP 6.3V 10UF	
C1070	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1071	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C1072	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C1073	VCUSQBH105ZF	C CHIP 50V 1UF	
C1074	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1075	ECJ1VF1A105Z	C CHIP 10V 1UF	
C1076	ECUV0J105KBV	C CHIP 6.3V 1UF	
C1079	ECJ0EB1E472K	C CHIP 25V 4700PF	
C1082	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C1086	ECJ0EB1A473K	C CHIP 10V 0.047	
C1087	ECJ1VB1E103K	C CHIP 25V 0.01UF	
C1088	ECST0JZ106R	TANTALUM CHIP 6.3V 10UF	
C1090	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1091	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C1101	F1J1A2250007	C CHIP 10V 2.2UF	
C1102	ECJ0EB1H102K	C CHIP 50V 1000PF	
C1103	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C2001	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C2002	F1K1C4750017	C CHIP 16V 4.7UF	
C2003	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2004	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C2005	ECJ2YB1A105K	C CHIP 10V 1UF	
C2006	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C2007	ECJ1VB1E183K	C CHIP 25V 0.018UF	
C2008	ECJ2VC1H471J	C CHIP 50V 470PF	
C2010	ECJ1VB1E183K	C CHIP 25V 0.018UF	
C2012	ECJ2VB1E104K	C CHIP 25V 0.1UF	
C2013	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2014	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C2016	ECJ2YB1A105K	C CHIP 10V 1UF	
C2017	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C2018	ECJ2YB1A105K	C CHIP 10V 1UF	
C2021	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C2022	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C2024	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C2027	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2028	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2029	ECJ0EB1A104K	C CHIP 10V 0.1UF	
C2030	ECST0JY475	TANTALUM CHIP 6.3V 4.7UF	
C3001	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3001	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3003	ECJ2YB1A105K	C CHIP 10V 1UF	
C3004	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3004	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3005	ECST0GY226	TANTALUM CHIP 4V 22UF	
C3007	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C3008	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3009	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3010	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3011	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C3012	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3012	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3014	ECJ0EF1C104Z	C CHIP 16V 0.1UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3017	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3018	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3019	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3020	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3021	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3022	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3024	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C3026	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3027	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3030	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3031	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3032	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3033	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3034	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3035	ECJ0EC1H200J	C CHIP 50V 20PF	
C3036	ECJ0EC1H220J	C CHIP 50V 22PF	
C3103	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3105	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C3106	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C3107	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3107	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3109	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3110	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3110	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3112	ECJ2YB1A105K	C CHIP 10V 1UF	
C3114	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3115	VCUSQAV105ZF	C CHIP 35V 1UF *See Replacement Note	
C3115	ECJ2VF1C105Z	C CHIP 16V 1UF *See Replacement Note	
C3116	ECEV0GA101S	ELECTROLYTIC CHIP 4V 100UF (B,C)	
C3117	ECJ2YB0J225K	C CHIP 6.3V 2.2UF (B,C)	
C3118	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C3119	ECEV0GA101S	ELECTROLYTIC CHIP 4V 100UF	
C3120	ECJ0EB1C103K	C CHIP 16V 0.01UF (B,C)	
C3202	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3203	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3204	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3205	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3206	ECJ0EC1H220J	C CHIP 50V 22PF	
C3207	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3208	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3209	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3210	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3212	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3214	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3215	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3217	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3218	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3221	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3251	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C3252	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3253	ECJ0EB1H221K	C CHIP 50V 220PF	
C3254	ECJ2YB1A105K	C CHIP 10V 1UF	
C3255	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C3257	ECST0GY226	TANTALUM CHIP 4V 22UF	

Ref. No.	Part No.	Part Name & Description	Remarks
C3258	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C3259	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C4302	**ECJ1VF1C104Z**	**C CHIP 16V 0.1UF**	
C4307	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C4308	**ECJ1VF1C104Z**	**C CHIP 16V 0.1UF**	
C4310	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C4312	**ECJ1VF1C104Z**	**C CHIP 16V 0.1UF**	
C4501	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C4503	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C4504	**ECJ2VB1C104K**	**C CHIP 16V 0.1UF**	
C4505	**ECST0GY226**	**TANTALUM CHIP 4V 22UF**	
C4507	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C4508	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C4509	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C4511	**ECST0GY226**	**TANTALUM CHIP 4V 22UF**	
C4512	**ECST0GY226**	**TANTALUM CHIP 4V 22UF**	
C4513	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C4514	**ECST0JY335**	**TANTALUM CHIP 6.3V 3.3UF**	
C4515	**ECST0JY335**	**TANTALUM CHIP 6.3V 3.3UF**	
C4516	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C4517	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C4518	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C4519	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C4520	**ECJ2YB1A105K**	**C CHIP 10V 1UF**	
C5001	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C5002	**ECST0JY226R**	**TANTALUM CHIP 6.3V 22UF**	
C5004	**ECJ0EB1H681K**	**C CHIP 50V 680PF**	
C5005	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C5007	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C5009	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C5011	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C5012	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C5013	**ECJ0EC1H120J**	**C CHIP 50V 12PF**	
C5014	**ECJ0EC1H120J**	**C CHIP 50V 12PF**	
C5015	**ECJ0EC1H120J**	**C CHIP 50V 12PF**	
C5016	**ECJ0EC1H120J**	**C CHIP 50V 12PF**	
C6001	**ECJ1VB1C104K**	**C CHIP 16V 0.1UF**	
C6002	**ECJ1VB1C104K**	**C CHIP 16V 0.1UF**	
C6003	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C6004	**ECJ1VB1C104K**	**C CHIP 16V 0.1UF**	
C6005	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C6006	**ECJ1VB1C104K**	**C CHIP 16V 0.1UF**	
C6007	**ECST0JY106**	**TANTALUM CHIP 6.3V 10UF**	
C6009	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C6010	**ECJ1VB1C104K**	**C CHIP 16V 0.1UF**	
C6012	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C6013	**ECUV0J105KBV**	**C CHIP 6.3V 1UF**	
C6014	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	
C6015	**ECJ0EC1H100D**	**C CHIP 50V 10PF**	
C6016	**ECJ0EC1H090D**	**C CHIP 50V 9PF**	
C6017	**ECJ0EC1H101J**	**C CHIP 50V 100PF**	
C6018	**ECJ0EC1H030C**	**C CHIP 50V 3PF**	
C6020	**ECJ0EF1C104Z**	**C CHIP 16V 0.1UF**	
C6025	**ECJ0EB1C103K**	**C CHIP 16V 0.01UF**	

Ref. No.	Part No.	Part Name & Description	Remarks
C6026	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6027	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6030	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6031	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6032	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6035	ERJ2GEJ103X	MGF CHIP 1/16W 10K	
C6036	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6038	ECJ0EF1C104Z	C CHIP 16V 0.1UF	
C6039	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6040	ECJ0EB1C103K	C CHIP 16V 0.01UF	
C6041	ECJ2YB1A105K	C CHIP 10V 1UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L301	J0JBC0000025	FERRITE BEAD CHIP	
L302	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L303	G1C100M00010	COIL CHIP 10UH	
L304	G1C100M00010	COIL CHIP 10UH	
L305	G1C100M00010	COIL CHIP 10UH	
L306	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L401	G1C220K00013	BEAD INDUCTOR 22UH	
L402	G1C100M00010	COIL CHIP 10UH *See Replacement Note	
L402	J0JBC0000025	FERRITE BEAD CHIP *See Replacement Note	
L403	G1C100M00010	COIL CHIP 10UH *See Replacement Note	
L403	J0JBC0000025	FERRITE BEAD CHIP *See Replacement Note	
L502	G1C100M00010	COIL CHIP 10UH *See Replacement Note	
L502	J0JBC0000025	FERRITE BEAD CHIP *See Replacement Note	
L701	ERJ6GEY0R00V	MGF CHIP 1/10W 0	
L901	LSLJFHB100NF	COIL CHIP 10UH	
L1001	G1C100MA0065	CHOKE COIL 10UH	
L1002	G1C100MA0065	CHOKE COIL 10UH	
L1003	G1C220MA0065	CHOKE COIL 22UH	
L1004	G1C220MA0065	CHOKE COIL 22UH	
L1005	G1C330MA0065	CHOKE COIL 33UH	
L1006	G1C470MA0065	CHOKE COIL 47UH	
L1007	G1C4R7MA0031	COIL CHIP 4.7UH	
L1008	G1C100K00020	COIL CHIP 10UH	
L1009	G1C4R7M00014	COIL CHIP 4.7UH	
L1010	G1C100K00020	COIL CHIP 10UH	
L1011	G1C100K00020	COIL CHIP 10UH	
L1012	G1C4R7MA0031	COIL CHIP 4.7UH	
L1013	G1C4R7MA0002	COIL CHIP 4.7UH	
L1014	G1C100K00020	COIL CHIP 10UH	
L1015	G1C100K00020	COIL CHIP 10UH	
L1016	G1C4R7MA0031	COIL CHIP 4.7UH	
L1017	G1C4R7MA0031	COIL CHIP 4.7UH	
L1018	G1C4R7MA0031	COIL CHIP 4.7UH	
L1019	G1C470J00006	COIL CHIP 47UH	
L1020	G1C470J00006	COIL CHIP 47UH	
L1021	G1C470J00006	COIL CHIP 47UH	
L3001	J0JBC0000027	FERRITE BEAD CHIP	
L3002	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3003	J0JBC0000027	FERRITE BEAD CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
L3004	J0JBC0000027	FERRITE BEAD CHIP	
L3005	J0JCC0000119	BEAD INDUCTOR 120UH	
L3006	G1C100M00010	COIL CHIP 10UH	
L3008	G1C100M00010	COIL CHIP 10UH	
L3009	G1C100K00020	COIL CHIP 10UH	
L3010	J0JBC0000027	FERRITE BEAD CHIP	
L3011	J0JBC0000027	FERRITE BEAD CHIP	
L3201	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3202	G1C100K00020	COIL CHIP 10UH	
L3203	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L3205	G1C100M00010	COIL CHIP 10UH	
L3206	J0JCC0000168	FERRITE BEAD CHIP	
L3207	J0JCC0000168	FERRITE BEAD CHIP	
L4301	G1C100KA0019	BEAD INDUCTOR 10UH	
L4302	J0JBC0000027	FERRITE BEAD CHIP	
L4501	LSLJDJA470KF	COIL CHIP 47UH	
L4502	G1C100K00020	COIL CHIP 10UH	
L4503	J0JBC0000027	FERRITE BEAD CHIP	
L5001	G1C101K00021	BEAD INDUCTOR 100UH	
L5002	G1C100K00020	COIL CHIP 10UH	
L6003	ERJ6GEY0R00V	MGF CHIP 1/10W 0	

CRYSTAL OSCILLATOR

Ref. No.	Part No.	Part Name & Description	Remarks
X301	LSSX0077	CRYSTAL OSCILLATOR	
X3001	H0A245500003	CRYSTAL OSCILLATOR	
X6002	LSSX0071	CRYSTAL OSCILLATOR	
X6003	LSSX0023	CRYSTAL OSCILLATOR	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
B1	K1KB40B00019	BOARD TO BOARD 40P	
B2	K1KA20A00233	BOARD TO BOARD 20P	
B3	K1KA20A00233	BOARD TO BOARD 20P	
P1	K1KB02A00030	CONNECTOR 2P	

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP1	K1MN10B00032	CONNECTOR 10P	
FP2	K1MN28A00025	CONNECTOR 28P	
FP3	K1MN10A00030	CONNECTOR 10P	
FP4	K1MN18B00089	CONNECTOR 18P	
FP5	K1MN12B00102	CONNECTOR 12P	
FP6	K1MN11B00061	CONNECTOR 11P	
FP7	K1MN28B00046	CONNECTOR 28P	
FP8	K1MN26B00075	CONNECTOR 26P	
FP9	K1MN20B00061	CONNECTOR 20P	
FP10	K1MN07B00023	CONNECTOR 7P	
FP301	K1MN14B00042	CONNECTOR 14P	
FP701	K1MN22B00076	CONNECTOR 22P	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T1001	G5DYA0000041	TRANSFORMER	

11.3.2. REAR C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D1201	RD12S-T1B	DIODE ZENER CHIP 12V	
D1202	RD12S-T1B	DIODE ZENER CHIP 12V	
D7001	B0BD6R800009	DIODE ZENER CHIP 6.8V	
D7002	B0BD6R800009	DIODE ZENER CHIP 6.8V	
D7003	B0BD6R800009	DIODE ZENER CHIP 6.8V	
D7004	RD6.2S	DIODE ZENER CHIP 6.2V (B,C)	
D7005	B0BD6R800009	DIODE ZENER CHIP 6.8V (B,C)	
D7006	RD6.2S	DIODE ZENER CHIP 6.2V (B,C)	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6706	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R6707	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R7001	ERJ3GEYJ331V	MGF CHIP 1/16W 330 (B,C)	
R7003	ERJ3GEYJ561V	MGF CHIP 1/16W 560	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C1201	ECJ1VF1H103Z	C CHIP 50V 0.01UF	
C1202	ECJ1VF1H103Z	C CHIP 50V 0.01UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L1201	J0JGC0000034	FERRITE BEAD CHIP	
L1202	J0JGC0000034	FERRITE BEAD CHIP	
L6704	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6705	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L6706	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
L7001	J0JBC0000027	FERRITE BEAD CHIP	
L7002	J0JBC0000027	FERRITE BEAD CHIP	
L7003	J0JBC0000027	FERRITE BEAD CHIP	
L7004	J0JBC0000027	FERRITE BEAD CHIP (B,C)	
L7005	J0JBC0000027	FERRITE BEAD CHIP (B,C)	

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
B1201	K1KA40A00177	BOARD TO BOARD 40P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
IP1201	K5H2022A0008	FUSE CHIP 32V 2A	⚠
IP1201	K5H202Z00003	FUSE CHIP 32V 2A	⚠
IP1201	K5H2022A0003	FUSE CHIP 32V 2A	⚠
IP1201	K5H202Z00005	FUSE CHIP 32V 2A	⚠
IP1202	K5H1022A0008	FUSE CHIP 32V 1A	⚠
IP1202	K5H102Z00004	FUSE CHIP 32V 1A	⚠
IP1202	K5H1022A0003	FUSE CHIP 32V 1A	⚠
IP1202	K5H102Z00006	FUSE CHIP 32V 1A	⚠

SWITCHES

Ref. No.	Part No.	Part Name & Description	Remarks
SW1201	ESE22MH4	SWITCH PUSH	

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK6701	K2HZ105E0001	USB MINI JACK SOCKET	
JK7001	LSYK0828	BATTERY COVER UNIT (A)	
JK7001	LSYK0829	BATTERY COVER UNIT (B,C)	
JK7003	K1FB104B0026	DV JACK SOCKET	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
731	LSSB0004	BATTERY	

11.3.3. MICROPHONE C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q4801	2SD1819A0L	TRANSISTOR SI NPN CHIP	*NOTE
Q4801	B1ABCF000020	TRANSISTOR SI NPN CHIP	*NOTE
Q4802	2SD1819A0L	TRANSISTOR SI NPN CHIP	*NOTE
Q4802	B1ABCF000020	TRANSISTOR SI NPN CHIP	*NOTE
Q4803	2SB1218A0L	TRANSISTOR SI PNP CHIP	*NOTE
Q4803	B1ADCF000063	TRANSISTOR SI PNP CHIP	*NOTE
Q4805	2SD1819A0L	TRANSISTOR SI NPN CHIP	*NOTE
Q4805	B1ABCF000020	TRANSISTOR SI NPN CHIP	*NOTE
Q4806	2SB1218A0L	TRANSISTOR SI PNP CHIP	*NOTE
Q4806	B1ADCF000063	TRANSISTOR SI PNP CHIP	*NOTE
Q4808	2SD1819A0L	TRANSISTOR SI NPN CHIP	*NOTE
Q4808	B1ABCF000020	TRANSISTOR SI NPN CHIP	*NOTE
Q4809	2SD1819A0L	TRANSISTOR SI NPN CHIP	*NOTE
Q4809	B1ABCF000020	TRANSISTOR SI NPN CHIP	*NOTE

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D4803	MA3J14300L	DIODE SI CHIP (C)	*NOTE
D4803	B0ADCC000004	DIODE SI CHIP (C)	*NOTE

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R4801	D0HB392ZA002	MGF CHIP 1/16W 3.9K	*NOTE
R4802	D0HB392ZA002	MGF CHIP 1/16W 3.9K	*NOTE
R4803	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	*NOTE
R4804	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	*NOTE
R4805	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	*NOTE
R4806	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	*NOTE
R4807	ERJ3GEYJ363V	MGF CHIP 1/16W 36K	*NOTE
R4808	ERJ3GEYJ822V	MGF CHIP 1/16W 8.2K	*NOTE
R4809	ERJ3GEYJ471V	MGF CHIP 1/16W 470	*NOTE
R4810	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	*NOTE
R4811	D0HB154ZA002	MGF CHIP 1/16W 150K	*NOTE
R4812	D0HB563ZA002	MGF CHIP 1/16W 56K	*NOTE
R4813	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	*NOTE
R4814	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	*NOTE
R4815	ERJ3GEYJ151V	MGF CHIP 1/16W 150	*NOTE
R4817	ERJ3GEYJ471V	MGF CHIP 1/16W 470	*NOTE
R4818	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	*NOTE
R4819	D0HB154ZA002	MGF CHIP 1/16W 150K	*NOTE
R4820	D0HB563ZA002	MGF CHIP 1/16W 56K	*NOTE
R4821	ERJ3GEYJ122V	MGF CHIP 1/16W 1.2K	*NOTE
R4822	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	*NOTE
R4823	ERJ3GEYJ151V	MGF CHIP 1/16W 150	*NOTE
R4825	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	*NOTE
R4827	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (C)	*NOTE
R4830	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	*NOTE
R4831	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	*NOTE
R4832	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	*NOTE
R4833	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	*NOTE
R4834	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A,B)	*NOTE
R4835	ERJ3GEY0R00V	MGF CHIP 1/16W 0 (A,B)	*NOTE

Ref. No.	Part No.	Part Name & Description	Remarks
R4837	ERJ3GEY0R00V	MGF CHIP 1/16W 0	*NOTE
R4838	ERJ3GEY0R00V	MGF CHIP 1/16W 0	*NOTE

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C4801	ECJ1VB1H102K	C CHIP 50V 1000PF	*NOTE
C4802	ECJ1VB1H102K	C CHIP 50V 1000PF	*NOTE
C4803	ECJ1VB1C273K	C CHIP 16V 0.027UF	*NOTE
C4804	ECJ1VB1C273K	C CHIP 16V 0.027UF	*NOTE
C4805	F1J1A1050002	C CHIP 10V 1UF	*NOTE
C4806	ECJ1VB1H102K	C CHIP 50V 1000PF	*NOTE
C4807	ECST0GY226	TANTALUM CHIP 4V 22UF	*NOTE
C4808	F1J1A1050002	C CHIP 10V 1UF	*NOTE
C4809	ECJ1VB1H102K	C CHIP 50V 1000PF	*NOTE
C4810	ECST0GY226	TANTALUM CHIP 4V 22UF	*NOTE
C4811	ECST0JY226R	TANTALUM CHIP 6.3V 22UF	*NOTE
C4812	ECJ1VB1H103K	C CHIP 50V 0.01UF	*NOTE
C4813	ECJ1VB1H821K	C CHIP 50V 820PF	*NOTE
C4814	ECJ1VB1H821K	C CHIP 50V 820PF	*NOTE
C4815	ECJ1VB1E223K	C CHIP 25V 0.022UF	*NOTE
C4816	ECJ1VB1E223K	C CHIP 25V 0.022UF	*NOTE
C4817	F1J1A1050002	C CHIP 10V 1UF	*NOTE
C4818	F1J1A1050002	C CHIP 10V 1UF	*NOTE
C4819	ECJ1VB1H222K	C CHIP 50V 0.0022UF	*NOTE
C4820	ECJ1VB1H222K	C CHIP 50V 0.0022UF	*NOTE
C4821	ECUE1C104ZFV	C CHIP 16V 0.1UF (C)	*NOTE

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L4801	J0JBC0000036	FERRITE CORE (C)	*NOTE
L4802	J0JBC0000036	FERRITE CORE (C)	*NOTE

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP4801	K1MN07B00022	CONNECTOR 7P	*NOTE

JACKS

Ref. No.	Part No.	Part Name & Description	Remarks
JK4801	K2HC104B0017	STERO MICROPHONE JACK SOCKET (C)	*NOTE

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
701	LSEK0446	ELECTORIC CONDENSER MICROPHONE UNIT (A,B)	*NOTE
701	LSEK0447	ELECTORIC CONDENSER MICROPHONE UNIT (C)	*NOTE
703	LSMG0111	MICROPHONE DUMPER	*NOTE
705	LSJW0033	FLEXIBLE FLAT CABLE W/OUT PLUG,4.8V	*NOTE

11.3.4. FRONT C.B.A.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D6502	SLR7123A50AB	LIGHT EMITTING DIODE IR (C)	*NOTE

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R6501	ERJ3GEYJ560V	MGF CHIP 1/16W 56	*NOTE
R6502	ERJ8GEYJ270V	MGF CHIP 1/8W 27 (C)	*NOTE

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C6501	ECST0JY106	TANTALUM CHIP 6.3V 10UF	*NOTE
C6502	ECJ1VF1C104Z	C CHIP 16V 0.1UF	*NOTE

PIN HEADERS

Ref. No.	Part No.	Part Name & Description	Remarks
P6501	K1KA03A00304	CONNECTOR 3P	*NOTE

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP6501	K1MN10A00030	CONNECTOR 10P	*NOTE

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
U6501	B3RAD0000039	INFRARED RECEOVER	*NOTE

11.3.5. EVF BACK LIGHT C.B.A.

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q951	2SD2216J0L	TRANSISTOR SI NPN CHIP	*NOTE
Q951	2SC4617-R	TRANSISTOR SI NPN CHIP	*NOTE

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D951	B3AFB0000024	LIGHT EMITTING DIODE	*NOTE
D951	B3AFB0000016	LIGHT EMITTING DIODE	*NOTE
D951	NSCW100	LIGHT EMITTING DIODE	*NOTE

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R951	ERJ3GEY0R00V	MGF CHIP 1/16W 0	*NOTE
R952	ERJ3GEY0R00V	MGF CHIP 1/16W 0	*NOTE
R953	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	*NOTE
R954	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	*NOTE
R955	ERJ3GEYJ101V	MGF CHIP 1/16W 100	*NOTE
R956	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	*NOTE
R957	ERJ3GEY0R00V	MGF CHIP 1/16W 0	*NOTE

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C952	ECJ1VF1C104Z	C CHIP 16V 0.1UF	*NOTE
C953	ECJ1VF1C104Z	C CHIP 16V 0.1UF	*NOTE
C954	ECJ1VF1C104Z	C CHIP 16V 0.1UF	*NOTE
C955	ECJ1VF1C104Z	C CHIP 16V 0.1UF	*NOTE

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP951	K1MN19B00052	CONNECTOR 19P	*NOTE
FP952	K1MN20B00084	CONNECTOR 20P	*NOTE

11.3.6. LIQUID CRYSTAL DISPLAY C.B.A.

(Model: C)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC8001	AN2540FHQ-V	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q8001	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8001	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8002	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8002	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8003	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8003	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8004	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8004	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8006	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8006	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8007	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8007	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8008	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8008	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8009	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8009	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8010	UNR511400L	TRANSISTOR SI PNP CHIP	
Q8010	B1GDCFJN0011	TRANSISTOR SI PNP CHIP	
Q8011	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8011	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8012	XP0450100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8014	XP0440100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8104	2SD11190RL	TRANSISTOR SI NPN CHIP	
Q8104	B1ABPC000007	TRANSISTOR SI NPN CHIP	
Q8105	2SD11190RL	TRANSISTOR SI NPN CHIP	
Q8105	B1ABPC000007	TRANSISTOR SI NPN CHIP	
Q8106	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8106	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8107	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8107	B1ABCF000020	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D8001	MAZ80680LL	DIODE ZENER CHIP 6.8V	
D8101	MA3J741E0L	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R8001	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8003	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8004	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8005	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8008	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8009	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8013	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8014	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8016	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R8017	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8019	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R8021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8022	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R8024	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R8025	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R8027	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8029	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8031	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8032	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8034	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8036	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8038	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8039	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8040	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8044	ERJ3GEYJ163V	MGF CHIP 1/16W 16K	
R8045	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8046	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8047	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8049	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8104	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R8105	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8106	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8108	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8109	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8110	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8111	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C8001	ECJ2YB1C474K	C CHIP 16V 0.47UF	
C8002	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8003	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8004	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8005	F3F0J226A001	ELECTROLYTIC CHIP 6.3V 22UF	
C8006	ECJ1VB1H103K	C CHIP 50V 0.01UF	
C8007	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C8008	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8009	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8010	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8011	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8012	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8013	ECJ1VB1H152K	C CHIP 50V 0.0015UF	
C8014	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C8015	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8016	F1K1C2250005	C CHIP 16V 2.2UF	
C8017	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8019	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8107	ECUV1A106KBP	C CHIP 10V 10UF	
C8108	ECHU1H273JB5	POLYESTER CHIP 50V 0.027UF	
C8109	LSCUCAD150J	C CHIP 2KV 15PF	
C8110	LSCUCAD150J	C CHIP 2KV 15PF	
C8113	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8114	ECUV0J105KBV	C CHIP 6.3V 1UF	
C8115	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8116	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C8117	F1J1C1050011	C CHIP 16V 1UF	
C8118	ECJ1VF1C104Z	C CHIP 16V 0.1UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L8001	G1C150J00005	COIL CHIP 15UH	
L8002	G1C150J00005	COIL CHIP 15UH	
L8003	G1C150J00005	COIL CHIP 15UH	
L8004	G1C150J00005	COIL CHIP 15UH	
L8005	G1C150J00005	COIL CHIP 15UH	
L8103	G1C680M00005	CHOKE COIL 68UH	
L8104	G1A100ZA0002	CHOKE COIL 10UH	

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP8001	K1MN25B00048	CONNECTOR 25P	
FP8002	K1MN24B00077	CONNECTOR 24P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PR8101	K5H1022A0008	CIRCUIT PROTECTOR CHIP 32V 1A	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T8101	ETJ11K121AM	TRANSFORMER	

MISCELLANEOUS

Ref. No.	Part No.	Part Name & Description	Remarks
721	VMZW0660	INSULATION SHEET,PLASTIC	

11.3.7. LIQUID CRYSTAL DISPLAY C.B.A.

(Model: A, B)

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

INTEGRATED CIRCUITS

Ref. No.	Part No.	Part Name & Description	Remarks
IC8001	AN2540FHQ-V	IC, LINEAR	

TRANSISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
Q8001	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8001	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8002	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8002	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8003	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8003	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8004	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8004	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8005	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8005	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8006	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8006	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8007	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8007	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8008	2SB1462J08	TRANSISTOR SI PNP CHIP	
Q8008	B1ADCF000072	TRANSISTOR SI PNP CHIP	
Q8009	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8009	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8010	UNR511400L	TRANSISTOR SI PNP CHIP	
Q8010	B1GDCFJN0011	TRANSISTOR SI PNP CHIP	
Q8011	UNR521200L	TRANSISTOR SI NPN CHIP	
Q8011	B1GBCFLL0012	TRANSISTOR SI NPN CHIP	
Q8012	XP0460100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8012	HN1B04FU-GTR	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8014	XP0460100L	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8014	HN1B04FU-GTR	TRANSISTOR COMPLX CMP SI NPN CHIP	
Q8104	2SD11190RL	TRANSISTOR SI NPN CHIP	
Q8104	B1ABPC000007	TRANSISTOR SI NPN CHIP	
Q8105	2SD11190RL	TRANSISTOR SI NPN CHIP	

Ref. No.	Part No.	Part Name & Description	Remarks
Q8105	B1ABPC000007	TRANSISTOR SI NPN CHIP	
Q8106	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8106	B1ABCF000020	TRANSISTOR SI NPN CHIP	
Q8107	2SD1819A0L	TRANSISTOR SI NPN CHIP	
Q8107	B1ABCF000020	TRANSISTOR SI NPN CHIP	

DIODES

Ref. No.	Part No.	Part Name & Description	Remarks
D8001	MAZ80680LL	DIODE ZENER CHIP 6.8V	
D8101	MA3J741E0L	DIODE SI CHIP	

RESISTORS

Ref. No.	Part No.	Part Name & Description	Remarks
R8001	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8003	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8004	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8005	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8006	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8007	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8008	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8009	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8010	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8011	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8012	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8013	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8014	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8016	ERJ3GEYJ472V	MGF CHIP 1/16W 4.7K	
R8017	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8019	ERJ3GEYJ222V	MGF CHIP 1/16W 2.2K	
R8021	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8022	ERJ3GEYJ562V	MGF CHIP 1/16W 5.6K	
R8023	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8024	ERJ3GEYJ682V	MGF CHIP 1/16W 6.8K	
R8025	ERJ3GEYJ153V	MGF CHIP 1/16W 15K	
R8027	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8028	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8029	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8034	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8035	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8036	ERJ3GEYJ101V	MGF CHIP 1/16W 100	
R8037	ERJ3GEYJ102V	MGF CHIP 1/16W 1K	
R8038	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8039	ERJ3GEYJ393V	MGF CHIP 1/16W 39K	
R8040	ERJ3GEY0R00V	MGF CHIP 1/16W 0	
R8044	ERJ3GEYJ104V	MGF CHIP 1/16W 100K	
R8045	ERJ3GEYJ563V	MGF CHIP 1/16W 56K	
R8046	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8047	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8049	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8104	ERJ3GEYJ332V	MGF CHIP 1/16W 3.3K	
R8105	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	
R8106	ERJ3GEYJ473V	MGF CHIP 1/16W 47K	

Ref. No.	Part No.	Part Name & Description	Remarks
R8108	ERJ3GEYJ103V	MGF CHIP 1/16W 10K	
R8109	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8110	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	
R8111	ERJ3GEYJ223V	MGF CHIP 1/16W 22K	

CAPACITORS

Ref. No.	Part No.	Part Name & Description	Remarks
C8001	ECJ2YB1C474K	C CHIP 16V 0.47UF	
C8002	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8003	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8004	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8005	F3F0J226A001	ELECTROLYTIC CHIP 6.3V 22UF	
C8006	ECUE1H103KBV	C CHIP 50V 0.01UF	
C8007	ECST1CY475	TANTALUM CHIP 16V 4.7UF	
C8008	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8009	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8010	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8011	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8012	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8013	ECJ1VB1H152K	C CHIP 50V 0.0015UF	
C8014	ECJ2YB0J225K	C CHIP 6.3V 2.2UF	
C8015	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8016	F1K1C2250005	C CHIP 16V 2.2UF	
C8017	ECJ2YF1C225Z	C CHIP 16V 2.2UF	
C8019	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8107	ECUV1A106KBP	C CHIP 10V 10UF	
C8108	ECHU1H333JB5	C CHIP 50V 0.033UF	
C8109	LSCUCAD150J	C CHIP 2KV 15PF	
C8110	LSCUCAD150J	C CHIP 2KV 15PF	
C8113	ECJ1VB1C104K	C CHIP 16V 0.1UF	
C8114	ECUV0J105KBV	C CHIP 6.3V 1UF	
C8115	ECST0JY106	TANTALUM CHIP 6.3V 10UF	
C8116	ECJ1VF1C104Z	C CHIP 16V 0.1UF	
C8117	F1J1C1050011	C CHIP 16V 1UF	
C8118	ECJ1VF1C104Z	C CHIP 16V 0.1UF	

COILS

Ref. No.	Part No.	Part Name & Description	Remarks
L8001	G1C150J00005	COIL CHIP 15UH	
L8002	G1C150J00005	COIL CHIP 15UH	
L8003	G1C150J00005	COIL CHIP 15UH	
L8004	G1C150J00005	COIL CHIP 15UH	
L8005	G1C150J00005	COIL CHIP 15UH	
L8103	G1C680M00005	CHOKE COIL 68UH	
L8104	G1A100ZA0002	CHOKE COIL 10UH	

FPC CONNECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
FP8001	K1MN25B00037	CONNECTOR 25P	
FP8002	K1MN24B00077	CONNECTOR 24P	

FUSE & PROTECTOR

Ref. No.	Part No.	Part Name & Description	Remarks
PR8101	K5H1022A0008	CIRCUIT PROTECTOR CHIP 32V 1A	

TRANSFORMER

Ref. No.	Part No.	Part Name & Description	Remarks
T8101	ETJ11K94AM	TRANSFORMER	

MISCELLANEOUS

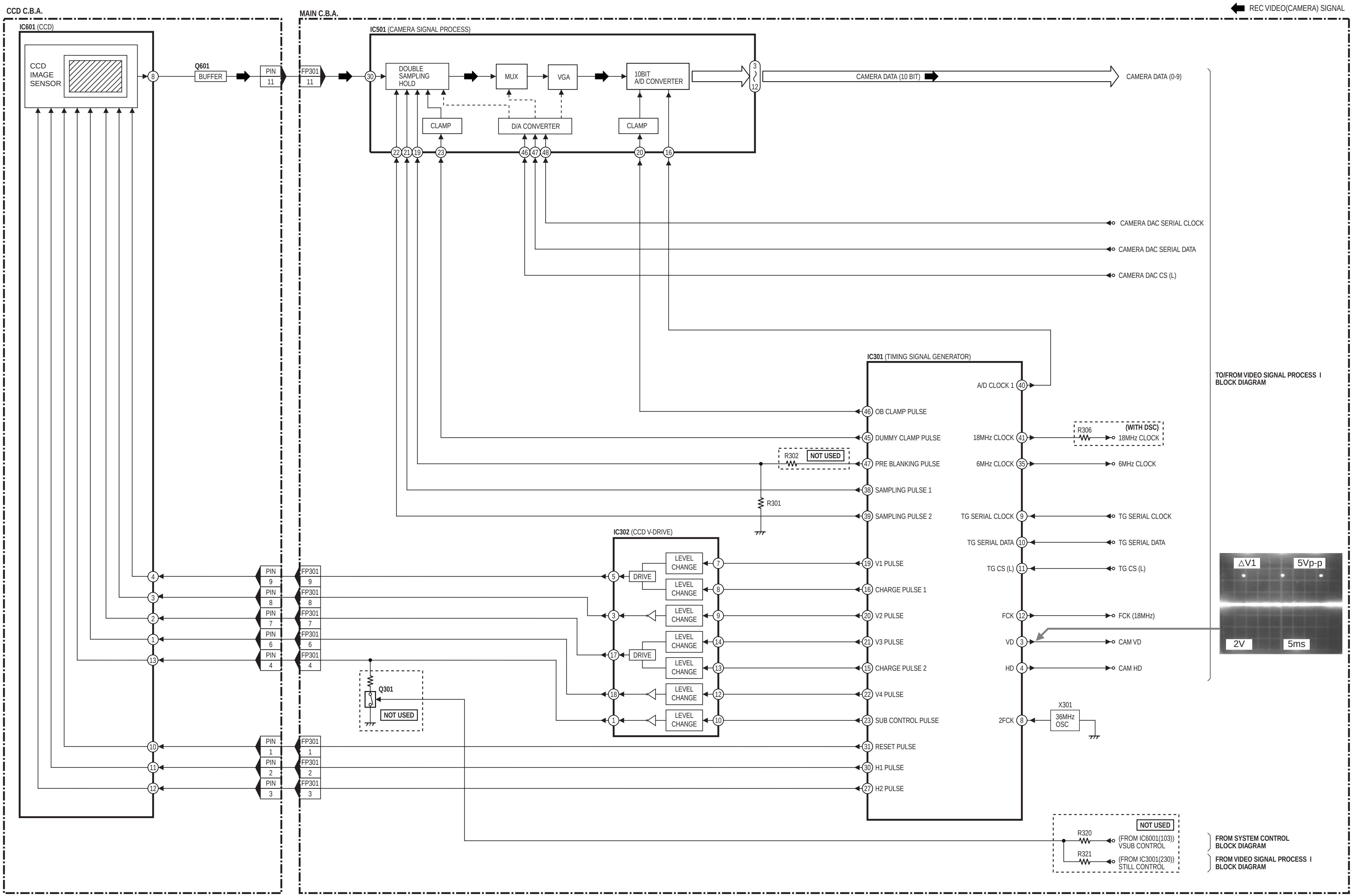
Ref. No.	Part No.	Part Name & Description	Remarks
721	VMZW0660	INSULATION SHEET,PLASTIC	

11.3.8. ELECTRICAL PARTS LOCATED ON CHASSIS

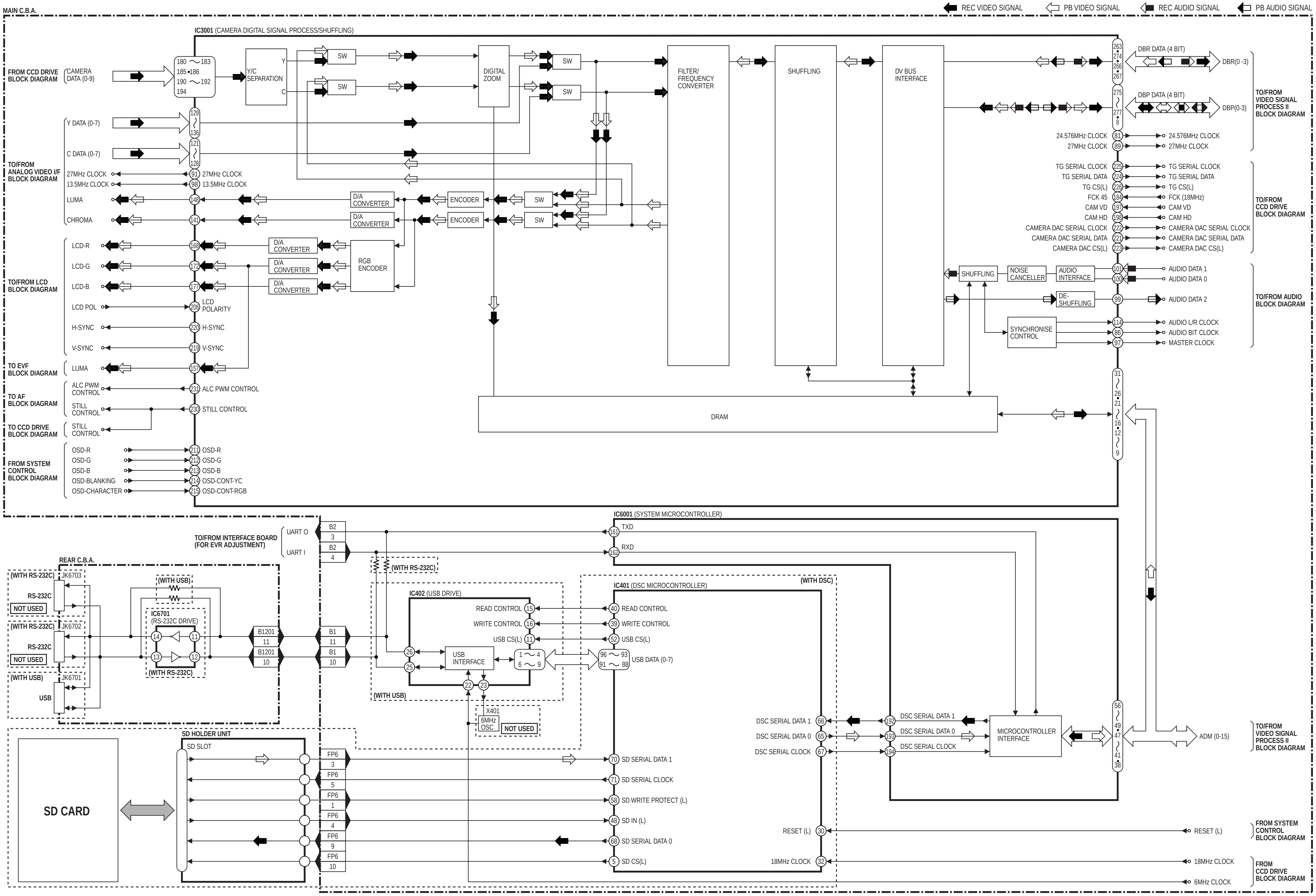
Ref. No.	Part No.	Part Name & Description	Remarks
735	LSEP8172A1	SD HOLDER UNIT NR	

12. SCHEMATIC DIAGRAMS FOR PRINTING WITH LETTER SIZE

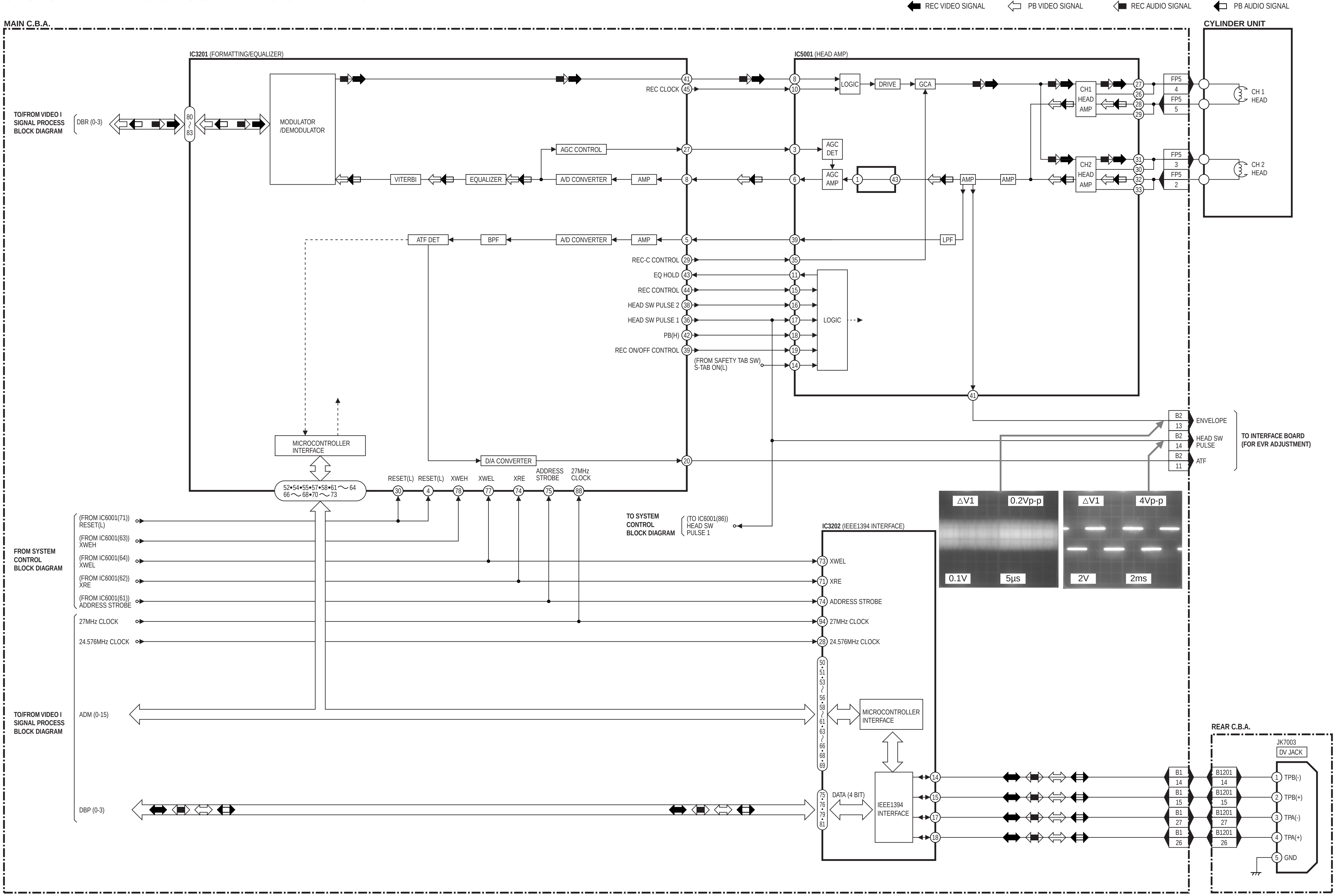
CCD DRIVE BLOCK DIAGRAM


REC VIDEO(CAMERA) SIGNAL
CCD C.B.A.
MAIN C.B.A.
IC601 (CCD)
CCD IMAGE SENSOR
Q601
BUFFER
PIN
FP301
IC501 (CAMERA SIGNAL PROCESS)
DOUBLE SAMPLING HOLD
MUX
VGA
10BIT A/D CONVERTER
CLAMP
D/A CONVERTER
CLAMP
CAMERA DATA (10 BIT)
CAMERA DATA (0-9)
CAMERA DAC SERIAL CLOCK
CAMERA DAC SERIAL DATA
CAMERA DAC CS (L)
TO/FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
IC301 (TIMING SIGNAL GENERATOR)
A/D CLOCK 1
OB CLAMP PULSE
DUMMY CLAMP PULSE
PRE BLANKING PULSE
SAMPLING PULSE 1
SAMPLING PULSE 2
V1 PULSE
CHARGE PULSE 1
V2 PULSE
V3 PULSE
CHARGE PULSE 2
V4 PULSE
SUB CONTROL PULSE
RESET PULSE
H1 PULSE
H2 PULSE
18MHz CLOCK
6MHz CLOCK
TG SERIAL CLOCK
TG SERIAL DATA
TG CS (L)
FCK
VD
HD
2FCK
(WITH DSC)
R306
18MHz CLOCK
6MHz CLOCK
TG SERIAL CLOCK
TG SERIAL DATA
TG CS (L)
FCK (18MHz)
CAM VD
CAM HD
X301
36MHz OSC
R302
NOT USED
R301
IC302 (CCD V-DRIVE)
LEVEL CHANGE
DRIVE
Q301
NOT USED
NOT USED
R320
R321
(FROM IC6001(103)) VSUB CONTROL
(FROM IC3001(230)) STILL CONTROL
FROM SYSTEM CONTROL BLOCK DIAGRAM
FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
△V1
5Vp-p
2V
5ms

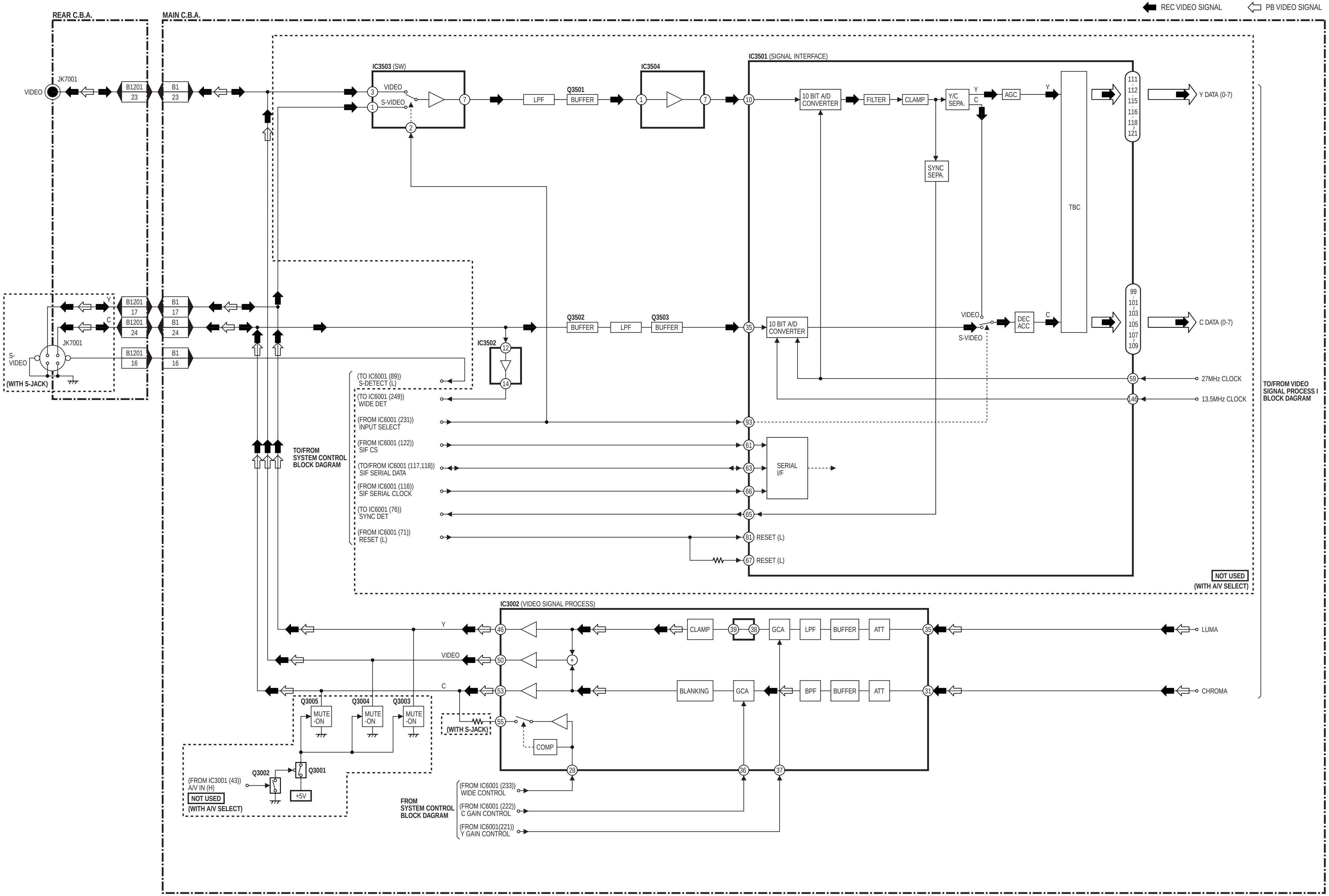
VIDEO SIGNAL PROCESS I BLOCK DIAGRAM


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
MAIN C.B.A.
IC3001 (CAMERA DIGITAL SIGNAL PROCESS/SHUFFLING)
FROM CCD DRIVE BLOCK DIAGRAM
CAMERA DATA (0-9)
180 ~ 183
185 • 186
190 ~ 192
194
Y/C SEPARATION
Y
C
SW
DIGITAL ZOOM
FILTER/ FREQUENCY CONVERTER
SHUFFLING
DV BUS INTERFACE
DBR DATA (4 BIT)
DBR(0 -3)
DBP DATA (4 BIT)
DBP(0-3)
TO/FROM VIDEO SIGNAL PROCESS II BLOCK DIAGRAM
24.576MHz CLOCK
27MHz CLOCK
TO/FROM ANALOG VIDEO I/F BLOCK DIAGRAM
Y DATA (0-7)
C DATA (0-7)
27MHz CLOCK
13.5MHz CLOCK
LUMA
CHROMA
D/A CONVERTER
ENCODER
RGB ENCODER
TO/FROM LCD BLOCK DIAGRAM
LCD-R
LCD-G
LCD-B
LCD POL
LCD POLARITY
H-SYNC
V-SYNC
TO EVF BLOCK DIAGRAM
TO AF BLOCK DIAGRAM
ALC PWM CONTROL
STILL CONTROL
TO CCD DRIVE BLOCK DIAGRAM
FROM SYSTEM CONTROL BLOCK DIAGRAM
OSD-R
OSD-G
OSD-B
OSD-BLANKING
OSD-CHARACTER
OSD-CONT-YC
OSD-CONT-RGB
TG SERIAL CLOCK
TG SERIAL DATA
TG CS(L)
FCK 45
FCK (18MHz)
CAM VD
CAM HD
CAMERA DAC SERIAL CLOCK
CAMERA DAC SERIAL DATA
CAMERA DAC CS(L)
TO/FROM CCD DRIVE BLOCK DIAGRAM
SHUFFLING
NOISE CANCELLER
AUDIO INTERFACE
DE-SHUFFLING
SYNCHRONISE CONTROL
AUDIO DATA 1
AUDIO DATA 0
AUDIO DATA 2
AUDIO L/R CLOCK
AUDIO BIT CLOCK
MASTER CLOCK
TO/FROM AUDIO BLOCK DIAGRAM
DRAM
IC6001 (SYSTEM MICROCONTROLLER)
TO/FROM INTERFACE BOARD (FOR EVR ADJUSTMENT)
UART O
UART I
TXD
RXD
B2
(WITH RS-232C)
REAR C.B.A.
JK6703
RS-232C
NOT USED
JK6702
JK6701
(WITH USB)
USB
IC6701 (RS-232C DRIVE)
B1201
B1
IC402 (USB DRIVE)
READ CONTROL
WRITE CONTROL
USB CS(L)
USB INTERFACE
USB DATA (0-7)
X401
6MHz OSC
IC401 (DSC MICROCONTROLLER)
(WITH DSC)
DSC SERIAL DATA 1
DSC SERIAL DATA 0
DSC SERIAL CLOCK
MICROCONTROLLER INTERFACE
ADM (0-15)
SD HOLDER UNIT
SD SLOT
SD CARD
FP6
SD SERIAL DATA 1
SD SERIAL CLOCK
SD WRITE PROTECT (L)
SD IN (L)
SD SERIAL DATA 0
SD CS(L)
RESET (L)
18MHz CLOCK
6MHz CLOCK
FROM SYSTEM CONTROL BLOCK DIAGRAM
FROM CCD DRIVE BLOCK DIAGRAM

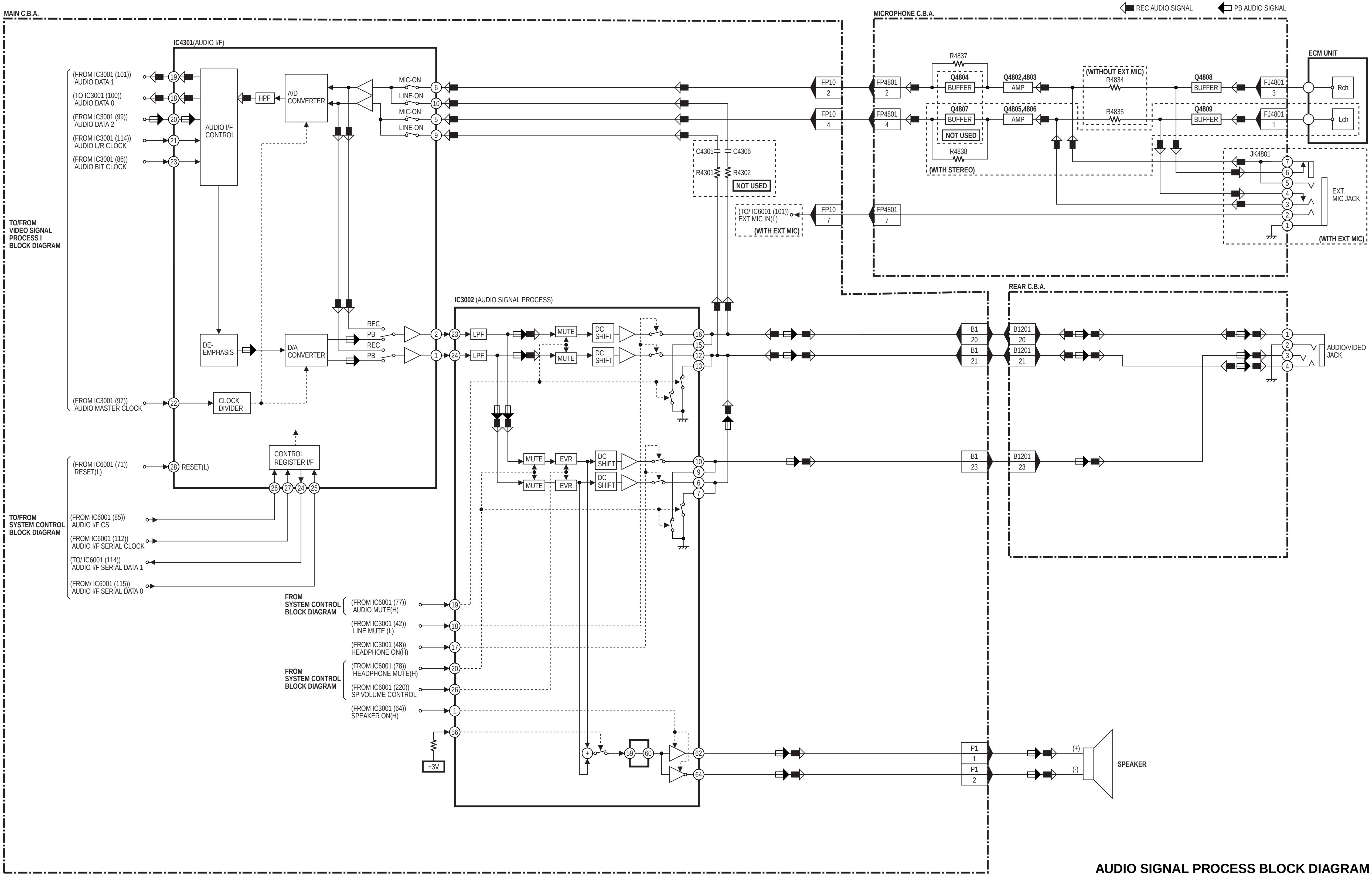
VIDEO SIGNAL PROCESS II BLOCK DIAGRAM


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
MAIN C.B.A.
CYLINDER UNIT
IC3201 (FORMATTING/EQUALIZER)
IC5001 (HEAD AMP)
TO/FROM VIDEO I SIGNAL PROCESS BLOCK DIAGRAM
DBR (0-3)
80 ~ 83
MODULATOR /DEMODULATOR
41
REC CLOCK 45
8
10
LOGIC
DRIVE
GCA
CH1 HEAD AMP
27
26
28
29
FP5 4
FP5 5
CH 1 HEAD
AGC CONTROL
27
3
AGC DET
CH2 HEAD AMP
31
30
32
33
FP5 3
FP5 2
CH 2 HEAD
VITERBI
EQUALIZER
A/D CONVERTER
AMP
8
6
AGC AMP
1
43
AMP
AMP
ATF DET
BPF
A/D CONVERTER
AMP
5
39
LPF
REC-C CONTROL 29
35
EQ HOLD 43
11
REC CONTROL 44
15
HEAD SW PULSE 2 38
16
HEAD SW PULSE 1 36
17
LOGIC
PB(H) 42
18
REC ON/OFF CONTROL 39
19
(FROM SAFETY TAB SW) S-TAB ON(L)
14
41
B2 13
ENVELOPE
B2 14
HEAD SW PULSE
B2 11
ATF
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
MICROCONTROLLER INTERFACE
D/A CONVERTER
20
52•54•55•57•58•61 ~ 64
66 ~ 68•70 ~ 73
RESET(L) 30
RESET(L) 4
XWEH 78
XWEL 77
XRE 74
ADDRESS STROBE 75
27MHz CLOCK 88
△V1 0.2Vp-p
0.1V 5µs
△V1 4Vp-p
2V 2ms
(FROM IC6001(71)) RESET(L)
(FROM IC6001(63)) XWEH
(FROM IC6001(64)) XWEL
(FROM IC6001(62)) XRE
(FROM IC6001(61)) ADDRESS STROBE
FROM SYSTEM CONTROL BLOCK DIAGRAM
27MHz CLOCK
24.576MHz CLOCK
TO SYSTEM CONTROL BLOCK DIAGRAM
(TO IC6001(86)) HEAD SW PULSE 1
IC3202 (IEEE1394 INTERFACE)
73 XWEL
71 XRE
74 ADDRESS STROBE
94 27MHz CLOCK
28 24.576MHz CLOCK
50•51•53 ~ 56•58 ~ 61•63 ~ 66•68•69
MICROCONTROLLER INTERFACE
TO/FROM VIDEO I SIGNAL PROCESS BLOCK DIAGRAM
ADM (0-15)
DBP (0-3)
75•76•79•81
DATA (4 BIT)
IEEE1394 INTERFACE
14
15
17
18
B1 14
B1 15
B1 27
B1 26
REAR C.B.A.
B1201 14
B1201 15
B1201 27
B1201 26
JK7003
DV JACK
1 TPB(-)
2 TPB(+)
3 TPA(-)
4 TPA(+)
5 GND

ANALOG VIDEO I/F BLOCK DIAGRAM

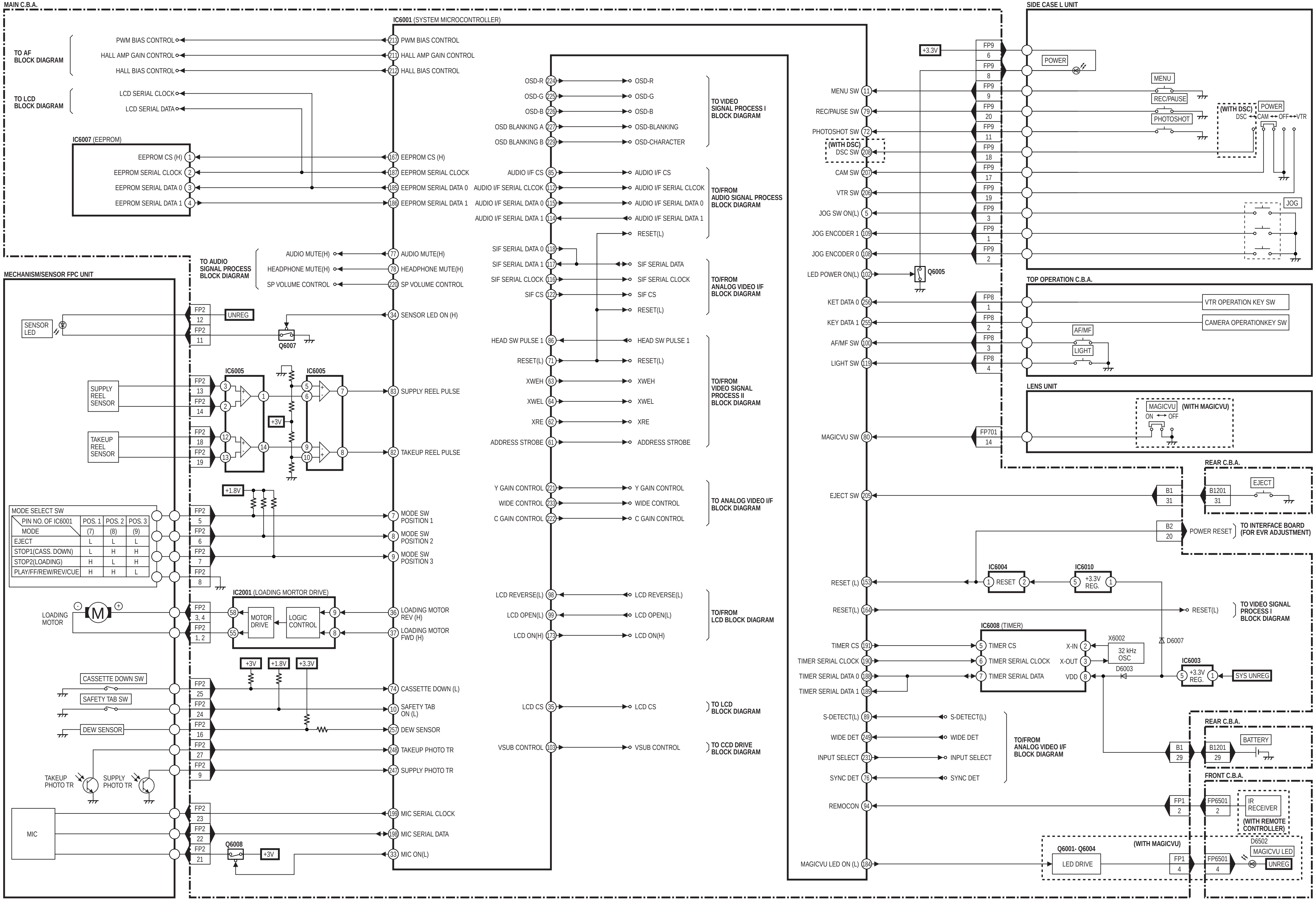

REC VIDEO SIGNAL
PB VIDEO SIGNAL
REAR C.B.A.
MAIN C.B.A.
VIDEO
JK7001
B1201
23
B1
23
IC3503 (SW)
VIDEO
S-VIDEO
3
1
2
7
LPF
Q3501
BUFFER
IC3504
1
7
IC3501 (SIGNAL INTERFACE)
10
10 BIT A/D CONVERTER
FILTER
CLAMP
Y/C SEPA.
Y
C
AGC
Y
111
112
115
116
118
121
Y DATA (0-7)
SYNC SEPA.
TBC
Y
C
B1201
17
B1
17
B1201
24
B1
24
B1201
16
B1
16
JK7001
S-VIDEO
(WITH S-JACK)
Q3502
BUFFER
LPF
Q3503
BUFFER
35
10 BIT A/D CONVERTER
VIDEO
S-VIDEO
DEC ACC
C
99
101
103
105
107
109
C DATA (0-7)
IC3502
12
14
59
27MHz CLOCK
146
13.5MHz CLOCK
TO/FROM VIDEO SIGNAL PROCESS I BLOCK DAGRAM
(TO IC6001 (89)) S-DETECT (L)
(TO IC6001 (249)) WIDE DET
(FROM IC6001 (231)) INPUT SELECT
93
(FROM IC6001 (122)) SIF CS
61
(TO/FROM IC6001 (117,118)) SIF SERIAL DATA
63
SERIAL I/F
(FROM IC6001 (116)) SIF SERIAL CLOCK
66
(TO IC6001 (76)) SYNC DET
65
(FROM IC6001 (71)) RESET (L)
81
RESET (L)
67
RESET (L)
TO/FROM SYSTEM CONTROL BLOCK DAGRAM
NOT USED
(WITH A/V SELECT)
IC3002 (VIDEO SIGNAL PROCESS)
Y
46
CLAMP
39
38
GCA
LPF
BUFFER
ATT
35
LUMA
VIDEO
50
+
C
53
BLANKING
GCA
BPF
BUFFER
ATT
31
CHROMA
55
COMP
28
36
37
(WITH S-JACK)
Q3005
MUTE -ON
Q3004
MUTE -ON
Q3003
MUTE -ON
Q3002
Q3001
+5V
(FROM IC3001 (43)) A/V IN (H)
NOT USED
(WITH A/V SELECT)
FROM SYSTEM CONTROL BLOCK DAGRAM
(FROM IC6001 (233)) WIDE CONTROL
(FROM IC6001 (222)) C GAIN CONTROL
(FROM IC6001(221)) Y GAIN CONTROL

AUDIO SIGNAL PROCESS BLOCK DIAGRAM



REC AUDIO SIGNAL
PB AUDIO SIGNAL
MAIN C.B.A.
MICROPHONE C.B.A.
REAR C.B.A.
ECM UNIT
IC4301(AUDIO I/F)
IC3002 (AUDIO SIGNAL PROCESS)
(FROM IC3001 (101)) AUDIO DATA 1
(TO IC3001 (100)) AUDIO DATA 0
(FROM IC3001 (99)) AUDIO DATA 2
(FROM IC3001 (114)) AUDIO L/R CLOCK
(FROM IC3001 (86)) AUDIO BIT CLOCK
TO/FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
(FROM IC3001 (97)) AUDIO MASTER CLOCK
(FROM IC6001 (71)) RESET(L)
RESET(L)
TO/FROM SYSTEM CONTROL BLOCK DIAGRAM
(FROM IC6001 (85)) AUDIO I/F CS
(FROM IC6001 (112)) AUDIO I/F SERIAL CLOCK
(TO/ IC6001 (114)) AUDIO I/F SERIAL DATA 1
(FROM/ IC6001 (115)) AUDIO I/F SERIAL DATA 0
AUDIO I/F CONTROL
HPF
A/D CONVERTER
MIC-ON
LINE-ON
MIC-ON
LINE-ON
DE-EMPHASIS
D/A CONVERTER
REC
PB
REC
PB
CLOCK DIVIDER
CONTROL REGISTER I/F
19 18 20 21 23 22 28 26 27 24 25 6 10 5 9 2 1
C4305
C4306
R4301
R4302
NOT USED
FP10 2
FP10 4
FP10 7
FP4801 2
FP4801 4
FP4801 7
(TO/ IC6001 (101)) EXT MIC IN(L)
(WITH EXT MIC)
R4837
Q4804 BUFFER
Q4802,4803 AMP
(WITHOUT EXT MIC)
R4834
Q4808 BUFFER
FJ4801 3
Rch
Q4807 BUFFER
Q4805,4806 AMP
R4835
Q4809 BUFFER
FJ4801 1
Lch
NOT USED
R4838
(WITH STEREO)
JK4801
7 6 5 4 3 2 1
EXT. MIC JACK
(WITH EXT MIC)
LPF
LPF
MUTE
MUTE
DC SHIFT
DC SHIFT
23 24 16 15 12 13
MUTE
EVR
DC SHIFT
MUTE
EVR
DC SHIFT
10 9 6 7
B1 20
B1 21
B1 23
B1201 20
B1201 21
B1201 23
1 2 3 4
AUDIO/VIDEO JACK
FROM SYSTEM CONTROL BLOCK DIAGRAM
(FROM IC6001 (77)) AUDIO MUTE(H)
(FROM IC3001 (42)) LINE MUTE (L)
(FROM IC3001 (48)) HEADPHONE ON(H)
FROM SYSTEM CONTROL BLOCK DIAGRAM
(FROM IC6001 (78)) HEADPHONE MUTE(H)
(FROM IC6001 (220)) SP VOLUME CONTROL
(FROM IC3001 (64)) SPEAKER ON(H)
19 18 17 20 26 1 56
+3V
+
59 60
62 64
P1 1
P1 2
(+)
(-)
SPEAKER

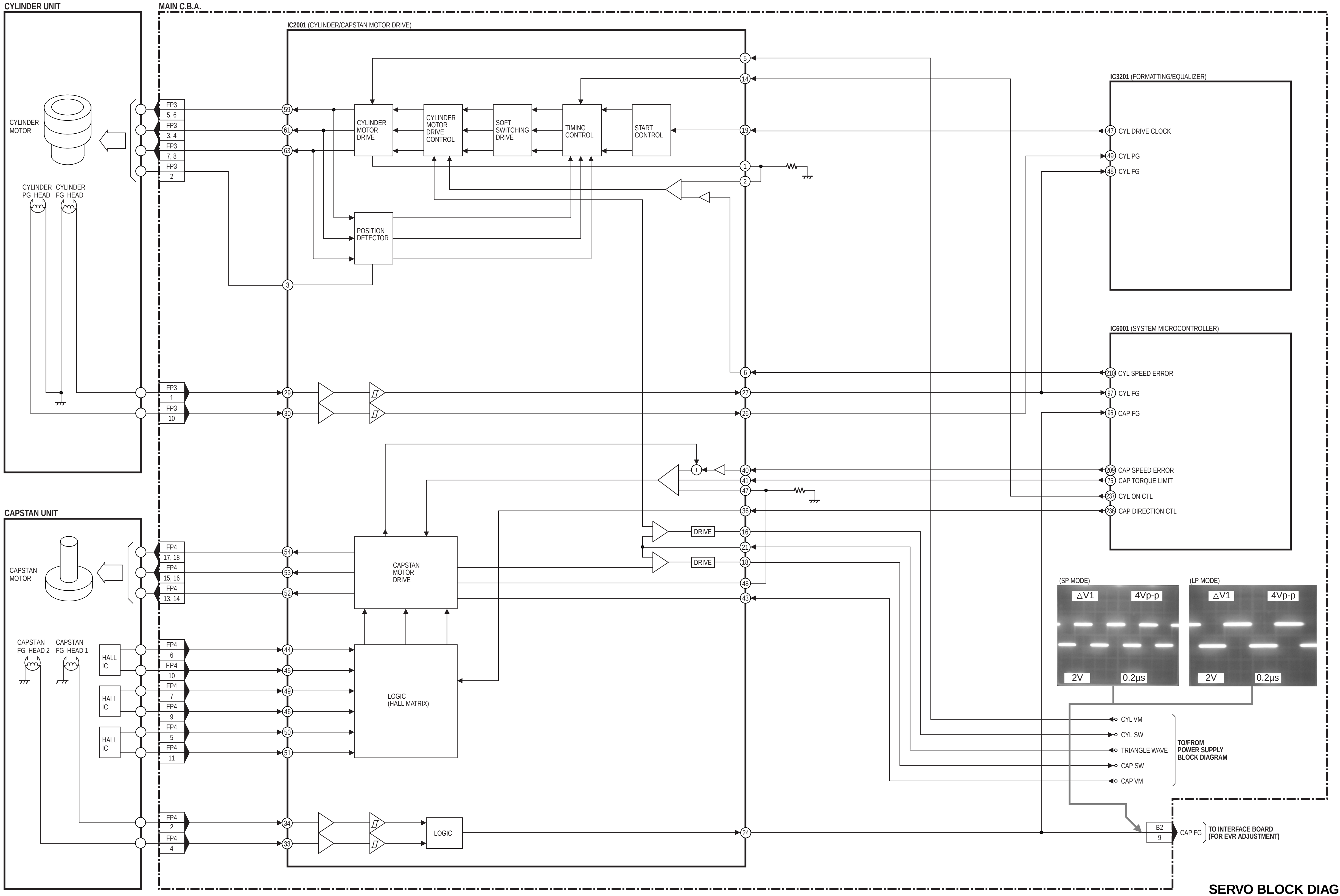
SYSTEM CONTROL BLOCK DIAGRAM


MAIN C.B.A.
IC6001 (SYSTEM MICROCONTROLLER)
TO AF BLOCK DIAGRAM
PWM BIAS CONTROL
HALL AMP GAIN CONTROL
HALL BIAS CONTROL
213 PWM BIAS CONTROL
211 HALL AMP GAIN CONTROL
212 HALL BIAS CONTROL
TO LCD BLOCK DIAGRAM
LCD SERIAL CLOCK
LCD SERIAL DATA
IC6007 (EEPROM)
EEPROM CS (H) 1
EEPROM SERIAL CLOCK 2
EEPROM SERIAL DATA 0 3
EEPROM SERIAL DATA 1 4
167 EEPROM CS (H)
187 EEPROM SERIAL CLOCK
185 EEPROM SERIAL DATA 0
186 EEPROM SERIAL DATA 1
TO AUDIO SIGNAL PROCESS BLOCK DIAGRAM
AUDIO MUTE(H)
HEADPHONE MUTE(H)
SP VOLUME CONTROL
77 AUDIO MUTE(H)
78 HEADPHONE MUTE(H)
220 SP VOLUME CONTROL
OSD-R 224
OSD-G 225
OSD-B 226
OSD BLANKING A 227
OSD BLANKING B 228
OSD-R
OSD-G
OSD-B
OSD-BLANKING
OSD-CHARACTER
TO VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
AUDIO I/F CS 85
AUDIO I/F SERIAL CLCOK 112
AUDIO I/F SERIAL DATA 0 115
AUDIO I/F SERIAL DATA 1 114
AUDIO I/F CS
AUDIO I/F SERIAL CLCOK
AUDIO I/F SERIAL DATA 0
AUDIO I/F SERIAL DATA 1
RESET(L)
TO/FROM AUDIO SIGNAL PROCESS BLOCK DIAGRAM
SIF SERIAL DATA 0 118
SIF SERIAL DATA 1 117
SIF SERIAL CLOCK 116
SIF CS 122
SIF SERIAL DATA
SIF SERIAL CLOCK
SIF CS
RESET(L)
TO/FROM ANALOG VIDEO I/F BLOCK DIAGRAM
HEAD SW PULSE 1 86
RESET(L) 71
XWEH 63
XWEL 64
XRE 62
ADDRESS STROBE 61
HEAD SW PULSE 1
RESET(L)
XWEH
XWEL
XRE
ADDRESS STROBE
TO/FROM VIDEO SIGNAL PROCESS II BLOCK DIAGRAM
Y GAIN CONTROL 221
WIDE CONTROL 233
C GAIN CONTROL 222
Y GAIN CONTROL
WIDE CONTROL
C GAIN CONTROL
TO ANALOG VIDEO I/F BLOCK DIAGRAM
LCD REVERSE(L) 98
LCD OPEN(L) 99
LCD ON(H) 173
LCD REVERSE(L)
LCD OPEN(L)
LCD ON(H)
TO/FROM LCD BLOCK DIAGRAM
LCD CS 35
LCD CS
TO LCD BLOCK DIAGRAM
VSUB CONTROL 103
VSUB CONTROL
TO CCD DRIVE BLOCK DIAGRAM
MECHANISM/SENSOR FPC UNIT
SENSOR LED
FP2 12
FP2 11
UNREG
Q6007
34 SENSOR LED ON (H)
SUPPLY REEL SENSOR
FP2 13
FP2 14
IC6005
IC6005
+3V
83 SUPPLY REEL PULSE
TAKEUP REEL SENSOR
FP2 18
FP2 19
82 TAKEUP REEL PULSE
+1.8V
MODE SELECT SW
FP2 5
FP2 6
FP2 7
FP2 8
7 MODE SW POSITION 1
8 MODE SW POSITION 2
9 MODE SW POSITION 3
IC2001 (LOADING MORTOR DRIVE)
MOTOR DRIVE
LOGIC CONTROL
LOADING MOTOR
M
-
+
FP2 3, 4
FP2 1, 2
36 LOADING MOTOR REV (H)
37 LOADING MOTOR FWD (H)
+3V
+1.8V
+3.3V
CASSETTE DOWN SW
SAFETY TAB SW
DEW SENSOR
FP2 25
FP2 24
FP2 16
FP2 27
FP2 9
74 CASSETTE DOWN (L)
10 SAFETY TAB ON (L)
257 DEW SENSOR
248 TAKEUP PHOTO TR
247 SUPPLY PHOTO TR
TAKEUP PHOTO TR
SUPPLY PHOTO TR
MIC
FP2 23
FP2 22
FP2 21
Q6008
+3V
199 MIC SERIAL CLOCK
198 MIC SERIAL DATA
33 MIC ON(L)
+3.3V
MENU SW 11
REC/PAUSE SW 79
PHOTOSHOT SW 72
(WITH DSC) DSC SW 208
CAM SW 207
VTR SW 206
JOG SW ON(L) 5
JOG ENCODER 1 109
JOG ENCODER 0 108
LED POWER ON(L) 102
Q6005
FP9 6
FP9 8
FP9 9
FP9 20
FP9 11
FP9 18
FP9 17
FP9 19
FP9 3
FP9 1
FP9 2
SIDE CASE L UNIT
POWER
MENU
REC/PAUSE
PHOTOSHOT
(WITH DSC)
POWER
DSC
CAM
OFF
VTR
JOG
KET DATA 0 256
KEY DATA 1 255
AF/MF SW 100
LIGHT SW 119
FP8 1
FP8 2
FP8 3
FP8 4
TOP OPERATION C.B.A.
VTR OPERATION KEY SW
CAMERA OPERATIONKEY SW
AF/MF
LIGHT
LENS UNIT
MAGICVU SW 80
FP701 14
MAGICVU
(WITH MAGICVU)
ON
OFF
REAR C.B.A.
EJECT SW 205
B1 31
B1201 31
EJECT
B2 20
POWER RESET
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
IC6004
RESET
IC6010
+3.3V REG.
RESET (L) 153
RESET(L) 164
RESET(L)
TO VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
IC6008 (TIMER)
TIMER CS 191
TIMER SERIAL CLOCK 190
TIMER SERIAL DATA 0 188
TIMER SERIAL DATA 1 189
5 TIMER CS
6 TIMER SERIAL CLOCK
7 TIMER SERIAL DATA
X-IN 2
X-OUT 3
VDD 8
X6002
32 kHz OSC
D6003
D6007
IC6003
+3.3V REG.
SYS UNREG
S-DETECT(L) 89
WIDE DET 249
INPUT SELECT 231
SYNC DET 76
S-DETECT(L)
WIDE DET
INPUT SELECT
SYNC DET
TO/FROM ANALOG VIDEO I/F BLOCK DIAGRAM
REAR C.B.A.
B1 29
B1201 29
BATTERY
FRONT C.B.A.
REMOCON 94
FP1 2
FP6501 2
IR RECEIVER
(WITH REMOTE CONTROLLER)
(WITH MAGICVU)
Q6001- Q6004
LED DRIVE
MAGICVU LED ON (L) 184
FP1 4
FP6501 4
D6502
MAGICVU LED
UNREG

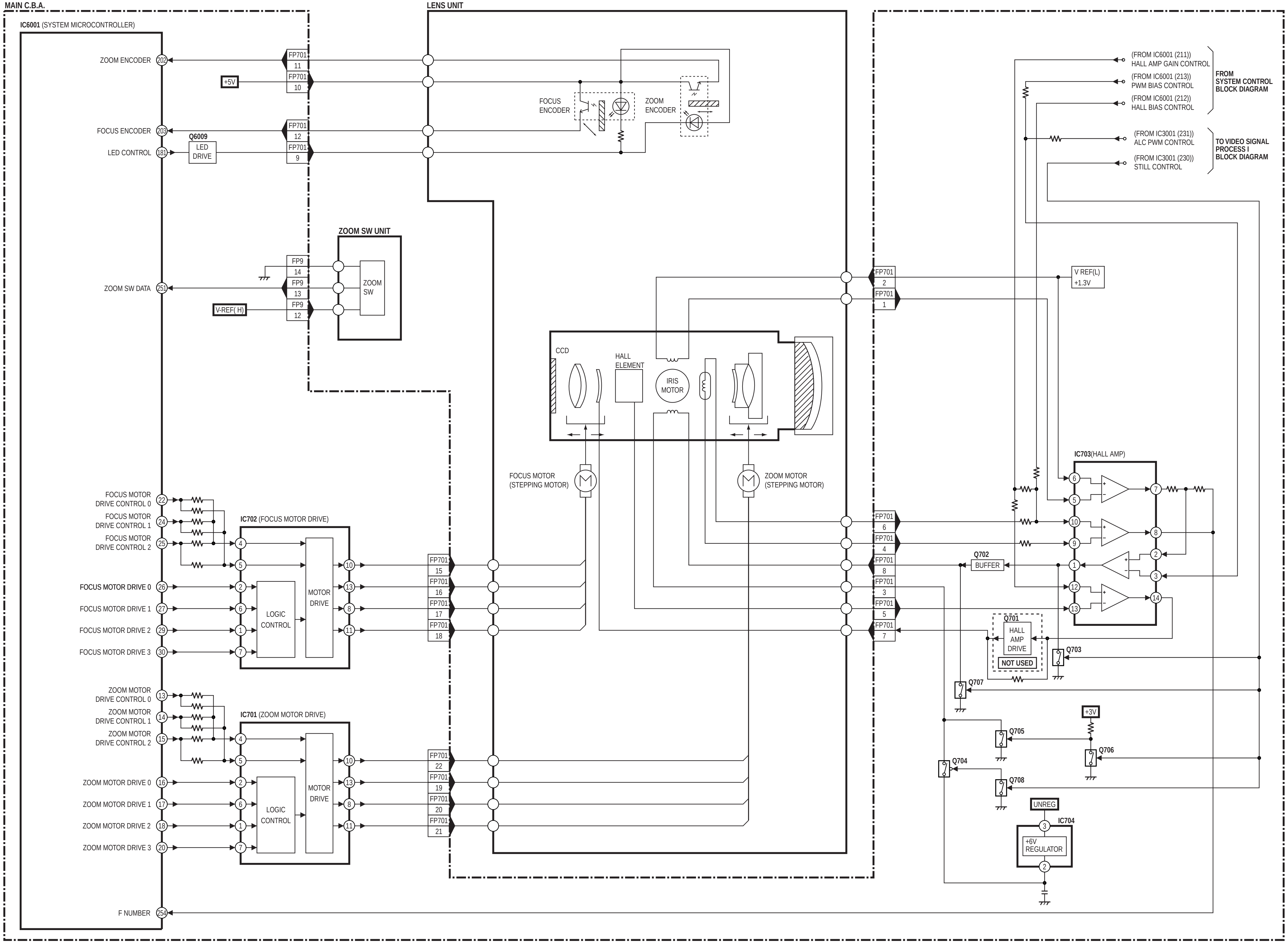
MODE SELECT SW

PIN NO. OF IC6001 / MODE	POS. 1 (7)	POS. 2 (8)	POS. 3 (9)
EJECT	L	L	L
STOP1(CASS. DOWN)	L	H	H
STOP2(LOADING)	H	L	H
PLAY/FF/REW/REV/CUE	H	H	L

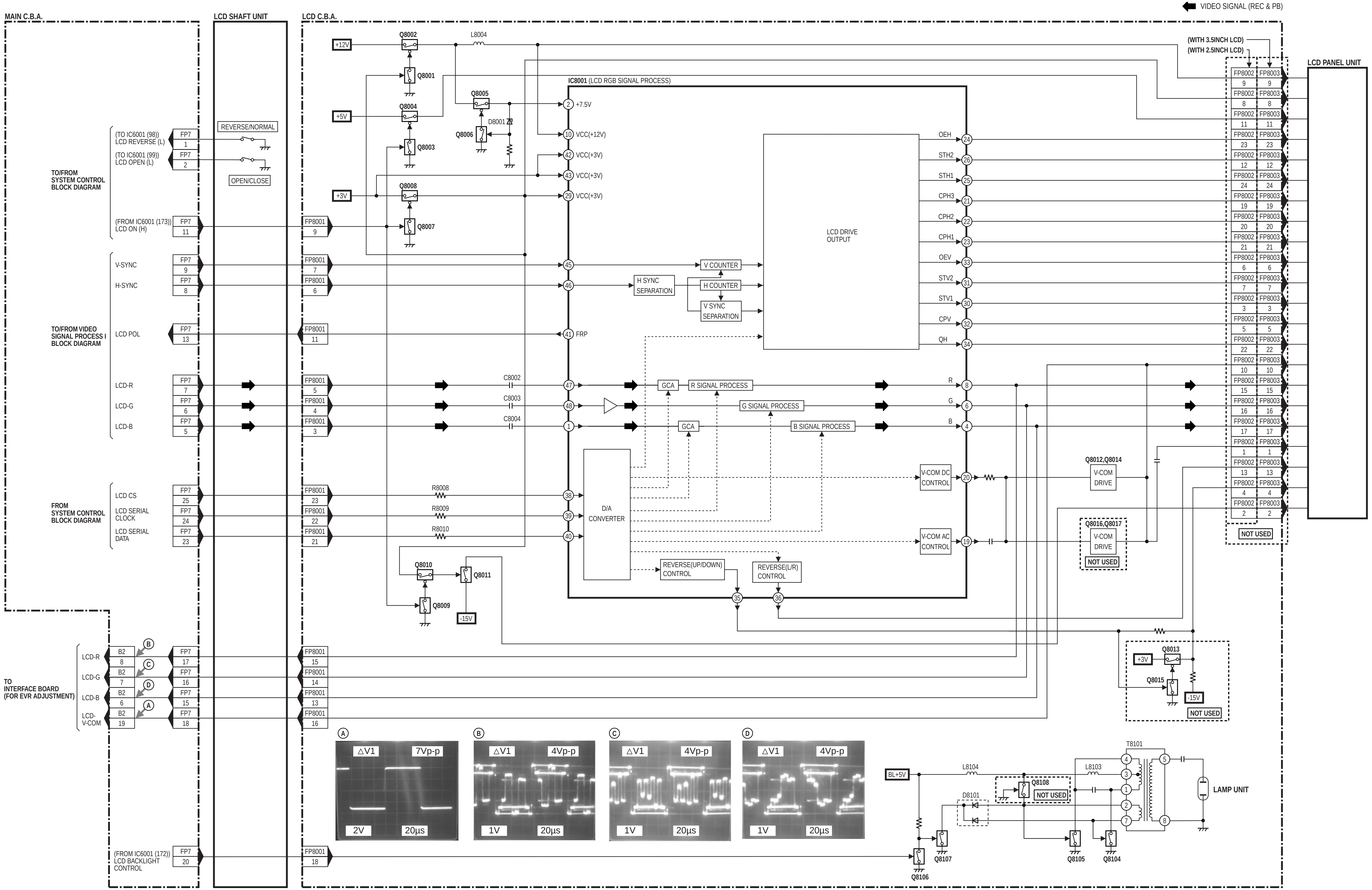
SERVO BLOCK DIAGRAM


CYLINDER UNIT
MAIN C.B.A.
IC2001 (CYLINDER/CAPSTAN MOTOR DRIVE)
CYLINDER MOTOR
CYLINDER PG HEAD
CYLINDER FG HEAD
FP3 5, 6
FP3 3, 4
FP3 7, 8
FP3 2
FP3 1
FP3 10
CYLINDER MOTOR DRIVE
CYLINDER MOTOR DRIVE CONTROL
SOFT SWITCHING DRIVE
TIMING CONTROL
START CONTROL
POSITION DETECTOR
IC3201 (FORMATTING/EQUALIZER)
CYL DRIVE CLOCK
CYL PG
CYL FG
IC6001 (SYSTEM MICROCONTROLLER)
CYL SPEED ERROR
CYL FG
CAP FG
CAP SPEED ERROR
CAP TORQUE LIMIT
CYL ON CTL
CAP DIRECTION CTL
CAPSTAN UNIT
CAPSTAN MOTOR
FP4 17, 18
FP4 15, 16
FP4 13, 14
CAPSTAN MOTOR DRIVE
DRIVE
DRIVE
CAPSTAN FG HEAD 2
CAPSTAN FG HEAD 1
HALL IC
HALL IC
HALL IC
FP4 6
FP4 10
FP4 7
FP4 9
FP4 5
FP4 11
LOGIC (HALL MATRIX)
FP4 2
FP4 4
LOGIC
(SP MODE)
△V1
4Vp-p
2V
0.2µs
(LP MODE)
△V1
4Vp-p
2V
0.2µs
CYL VM
CYL SW
TRIANGLE WAVE
CAP SW
CAP VM
TO/FROM POWER SUPPLY BLOCK DIAGRAM
B2 9
CAP FG
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)

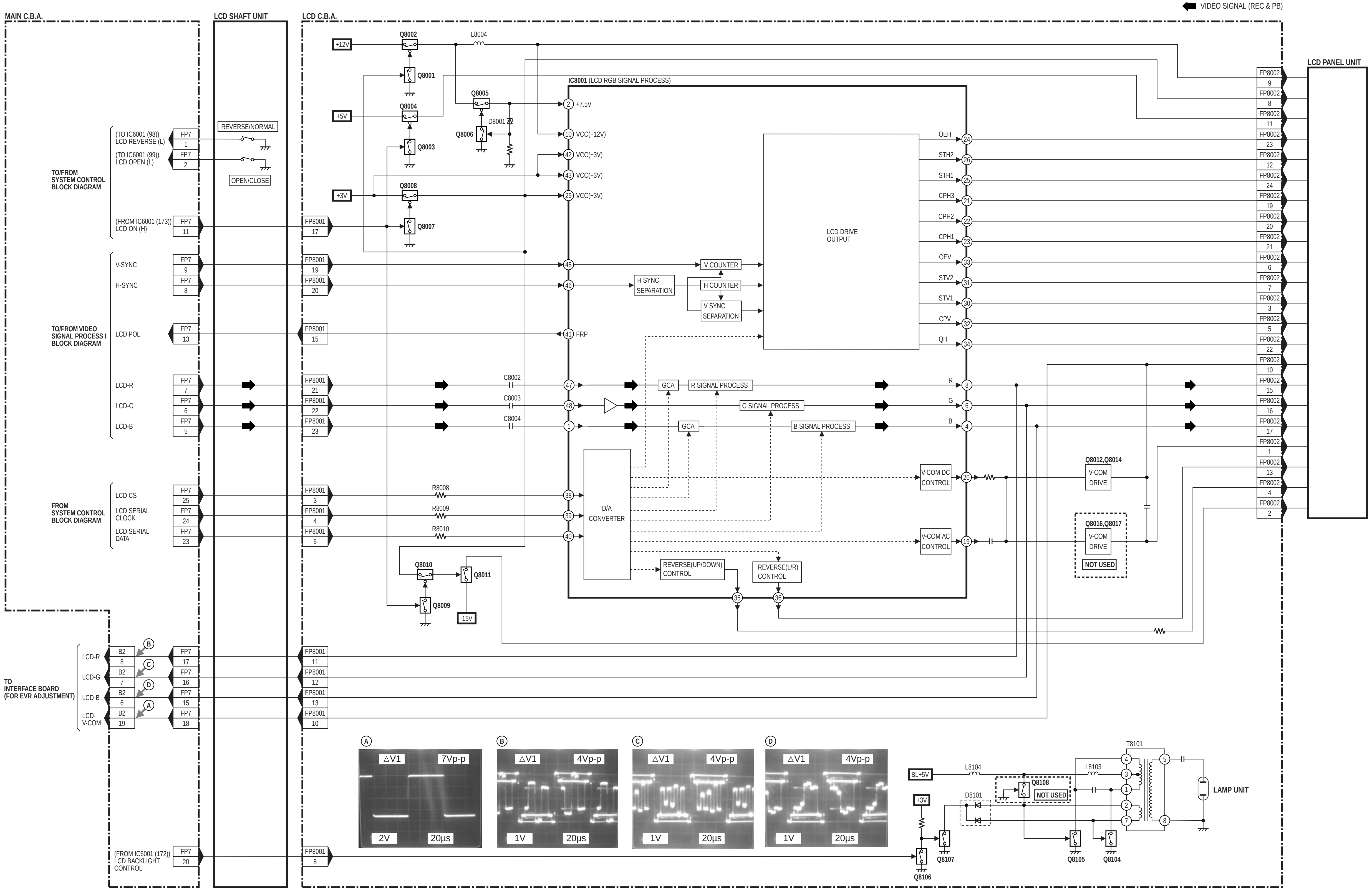
AF BLOCK DIAGRAM


MAIN C.B.A.
IC6001 (SYSTEM MICROCONTROLLER)
ZOOM ENCODER
202
+5V
FOCUS ENCODER
203
LED CONTROL
181
Q6009
LED DRIVE
FP701 11
FP701 10
FP701 12
FP701 9
LENS UNIT
FOCUS ENCODER
ZOOM ENCODER
ZOOM SW UNIT
ZOOM SW
FP9 14
FP9 13
FP9 12
ZOOM SW DATA
251
V-REF(H)
CCD
HALL ELEMENT
IRIS MOTOR
FOCUS MOTOR (STEPPING MOTOR)
ZOOM MOTOR (STEPPING MOTOR)
FP701 2
FP701 1
V REF(L) +1.3V
(FROM IC6001 (211)) HALL AMP GAIN CONTROL
(FROM IC6001 (213)) PWM BIAS CONTROL
(FROM IC6001 (212)) HALL BIAS CONTROL
FROM SYSTEM CONTROL BLOCK DIAGRAM
(FROM IC3001 (231)) ALC PWM CONTROL
(FROM IC3001 (230)) STILL CONTROL
TO VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
FOCUS MOTOR DRIVE CONTROL 0
22
FOCUS MOTOR DRIVE CONTROL 1
24
FOCUS MOTOR DRIVE CONTROL 2
25
FOCUS MOTOR DRIVE 0
26
FOCUS MOTOR DRIVE 1
27
FOCUS MOTOR DRIVE 2
29
FOCUS MOTOR DRIVE 3
30
IC702 (FOCUS MOTOR DRIVE)
LOGIC CONTROL
MOTOR DRIVE
FP701 15
FP701 16
FP701 17
FP701 18
IC703(HALL AMP)
FP701 6
FP701 4
FP701 8
FP701 3
FP701 5
FP701 7
Q702
BUFFER
Q701
HALL AMP DRIVE
NOT USED
Q703
Q707
Q705
Q706
Q704
Q708
+3V
UNREG
IC704
+6V REGULATOR
ZOOM MOTOR DRIVE CONTROL 0
13
ZOOM MOTOR DRIVE CONTROL 1
14
ZOOM MOTOR DRIVE CONTROL 2
15
ZOOM MOTOR DRIVE 0
16
ZOOM MOTOR DRIVE 1
17
ZOOM MOTOR DRIVE 2
18
ZOOM MOTOR DRIVE 3
20
IC701 (ZOOM MOTOR DRIVE)
LOGIC CONTROL
MOTOR DRIVE
FP701 22
FP701 19
FP701 20
FP701 21
F NUMBER
254

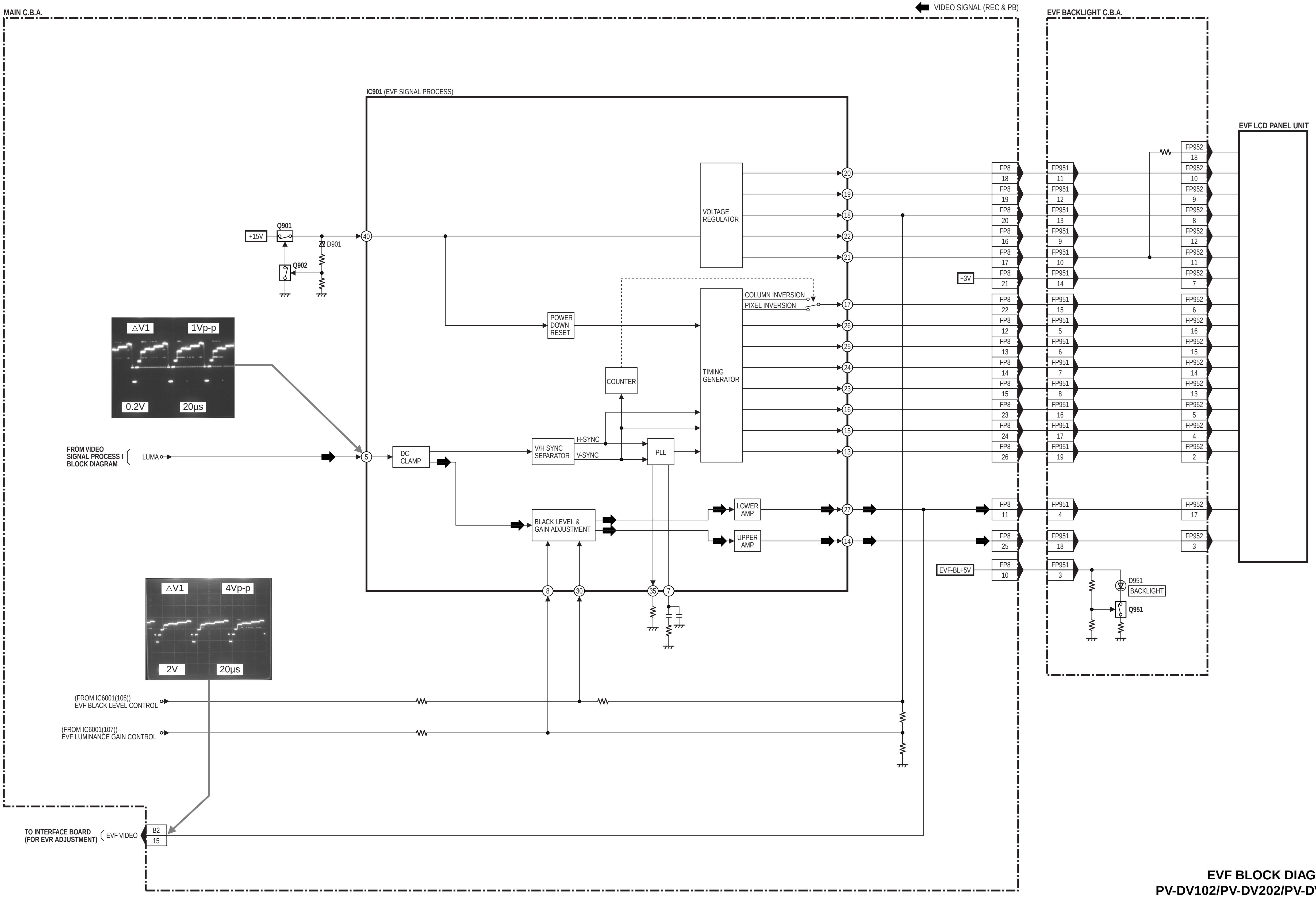
LCD BLOCK DIAGRAM (MODELS : PV-DV102/PV-DV202)


VIDEO SIGNAL (REC & PB)
MAIN C.B.A.
LCD SHAFT UNIT
LCD C.B.A.
LCD PANEL UNIT
(WITH 3.5INCH LCD)
(WITH 2.5INCH LCD)
+12V
Q8002
L8004
Q8001
+5V
Q8004
Q8005
D8001
Q8006
Q8003
+3V
Q8008
Q8007
IC8001 (LCD RGB SIGNAL PROCESS)
2 +7.5V
10 VCC(+12V)
42 VCC(+3V)
43 VCC(+3V)
29 VCC(+3V)
REVERSE/NORMAL
OPEN/CLOSE
TO/FROM SYSTEM CONTROL BLOCK DIAGRAM
(TO IC6001 (98)) LCD REVERSE (L)
(TO IC6001 (99)) LCD OPEN (L)
(FROM IC6001 (173)) LCD ON (H)
TO/FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
V-SYNC
H-SYNC
LCD POL
LCD-R
LCD-G
LCD-B
FROM SYSTEM CONTROL BLOCK DIAGRAM
LCD CS
LCD SERIAL CLOCK
LCD SERIAL DATA
FP7
FP8001
45
46
41 FRP
47
48
1
38
39
40
H SYNC SEPARATION
V COUNTER
H COUNTER
V SYNC SEPARATION
LCD DRIVE OUTPUT
OEH 24
STH2 26
STH1 25
CPH3 21
CPH2 22
CPH1 23
OEV 33
STV2 31
STV1 30
CPV 32
QH 34
C8002
C8003
C8004
GCA
R SIGNAL PROCESS
G SIGNAL PROCESS
B SIGNAL PROCESS
R 8
G 6
B 4
R8008
R8009
R8010
D/A CONVERTER
V-COM DC CONTROL 20
V-COM AC CONTROL 19
REVERSE(UP/DOWN) CONTROL
REVERSE(L/R) CONTROL
35
36
Q8012,Q8014
V-COM DRIVE
Q8016,Q8017
NOT USED
FP8002
FP8003
Q8010
Q8011
Q8009
-15V
Q8013
Q8015
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
LCD-R
LCD-G
LCD-B
LCD-V-COM
B2
(FROM IC6001 (172)) LCD BACKLIGHT CONTROL
A
△V1 7Vp-p
2V 20μs
B
△V1 4Vp-p
1V 20μs
C
△V1 4Vp-p
1V 20μs
D
△V1 4Vp-p
1V 20μs
BL+5V
L8104
D8101
Q8108
NOT USED
L8103
T8101
LAMP UNIT
Q8106
Q8107
Q8105
Q8104

LCD BLOCK DIAGRAM (MODEL : PV-DV402)

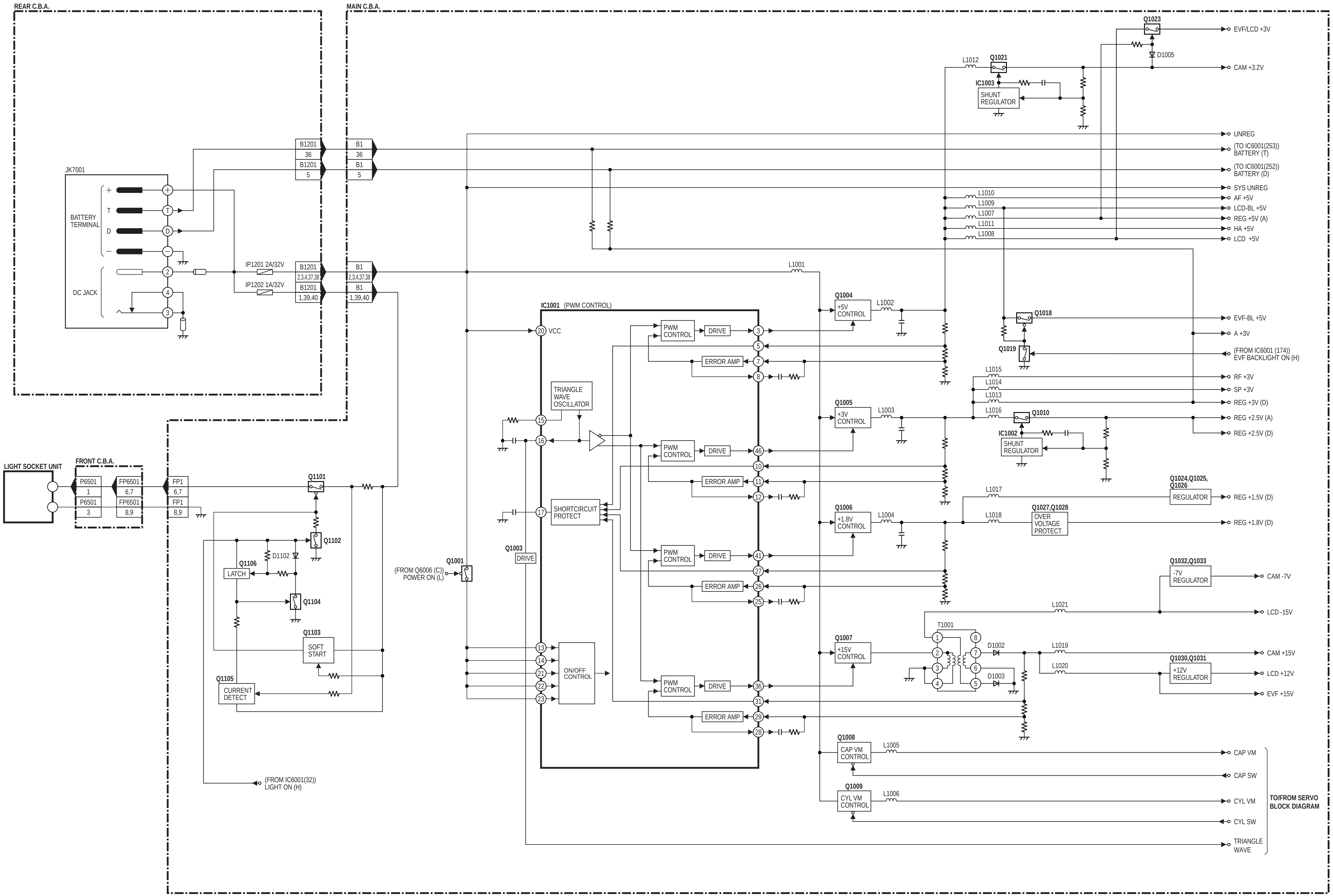

VIDEO SIGNAL (REC & PB)
MAIN C.B.A.
LCD SHAFT UNIT
LCD C.B.A.
LCD PANEL UNIT
TO/FROM SYSTEM CONTROL BLOCK DIAGRAM
(TO IC6001 (98)) LCD REVERSE (L)
(TO IC6001 (99)) LCD OPEN (L)
(FROM IC6001 (173)) LCD ON (H)
REVERSE/NORMAL
OPEN/CLOSE
TO/FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
V-SYNC
H-SYNC
LCD POL
LCD-R
LCD-G
LCD-B
FROM SYSTEM CONTROL BLOCK DIAGRAM
LCD CS
LCD SERIAL CLOCK
LCD SERIAL DATA
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
LCD-V-COM
(FROM IC6001 (172)) LCD BACKLIGHT CONTROL
FP7
FP8001
FP8002
B2
+12V
+5V
+3V
-15V
BL+5V
Q8001
Q8002
Q8003
Q8004
Q8005
Q8006
Q8007
Q8008
Q8009
Q8010
Q8011
D8001
L8004
C8002
C8003
C8004
R8008
R8009
R8010
IC8001 (LCD RGB SIGNAL PROCESS)
+7.5V
VCC(+12V)
VCC(+3V)
FRP
H SYNC SEPARATION
V COUNTER
H COUNTER
V SYNC SEPARATION
LCD DRIVE OUTPUT
OEH
STH2
STH1
CPH3
CPH2
CPH1
OEV
STV2
STV1
CPV
QH
R
G
B
GCA
R SIGNAL PROCESS
G SIGNAL PROCESS
B SIGNAL PROCESS
D/A CONVERTER
V-COM DC CONTROL
V-COM AC CONTROL
REVERSE(UP/DOWN) CONTROL
REVERSE(L/R) CONTROL
Q8012,Q8014
V-COM DRIVE
Q8016,Q8017
NOT USED
A
B
C
D
△V1 7Vp-p
2V 20µs
△V1 4Vp-p
1V 20µs
L8104
D8101
Q8108
Q8107
Q8106
Q8105
Q8104
L8103
T8101
LAMP UNIT

EVF BLOCK DIAGRAM



VIDEO SIGNAL (REC & PB)
MAIN C.B.A.
EVF BACKLIGHT C.B.A.
EVF LCD PANEL UNIT
IC901 (EVF SIGNAL PROCESS)
VOLTAGE REGULATOR
TIMING GENERATOR
COLUMN INVERSION
PIXEL INVERSION
POWER DOWN RESET
COUNTER
DC CLAMP
V/H SYNC SEPARATOR
H-SYNC
V-SYNC
PLL
BLACK LEVEL & GAIN ADJUSTMENT
LOWER AMP
UPPER AMP
+15V
Q901
Q902
D901
+3V
EVF-BL+5V
D951
BACKLIGHT
Q951
△V1
1Vp-p
0.2V
20µs
△V1
4Vp-p
2V
20µs
FROM VIDEO SIGNAL PROCESS I BLOCK DIAGRAM
LUMA
(FROM IC6001(106)) EVF BLACK LEVEL CONTROL
(FROM IC6001(107)) EVF LUMINANCE GAIN CONTROL
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
EVF VIDEO
B2 15
40
5
8
30
35
7
20
19
18
22
21
17
26
25
24
23
16
15
13
27
14
FP8 18
FP8 19
FP8 20
FP8 16
FP8 17
FP8 21
FP8 22
FP8 12
FP8 13
FP8 14
FP8 15
FP8 23
FP8 24
FP8 26
FP8 11
FP8 25
FP8 10
FP951 11
FP951 12
FP951 13
FP951 9
FP951 10
FP951 14
FP951 15
FP951 5
FP951 6
FP951 7
FP951 8
FP951 16
FP951 17
FP951 19
FP951 4
FP951 18
FP951 3
FP952 18
FP952 10
FP952 9
FP952 8
FP952 12
FP952 11
FP952 7
FP952 6
FP952 16
FP952 15
FP952 14
FP952 13
FP952 5
FP952 4
FP952 2
FP952 17
FP952 3

POWER SUPPLY BLOCK DIAGRAM


REAR C.B.A.
MAIN C.B.A.
JK7001
BATTERY TERMINAL
+
T
D
−
DC JACK
2
4
3
IP1201 2A/32V
IP1202 1A/32V
B1201
36
B1201
5
B1201
2,3,4,37,38
B1201
1,39,40
B1
36
B1
5
B1
2,3,4,37,38
B1
1,39,40
LIGHT SOCKET UNIT
FRONT C.B.A.
P6501
1
P6501
3
FP6501
6,7
FP6501
8,9
FP1
6,7
FP1
8,9
Q1101
Q1102
D1102
Q1106
LATCH
Q1104
Q1103
SOFT START
Q1105
CURRENT DETECT
(FROM IC6001(32)) LIGHT ON (H)
Q1001
(FROM Q6006 (C)) POWER ON (L)
Q1003
DRIVE
IC1001 (PWM CONTROL)
20 VCC
TRIANGLE WAVE OSCILLATOR
15
16
17
SHORTCIRCUIT PROTECT
13
14
21
22
23
ON/OFF CONTROL
PWM CONTROL
DRIVE
ERROR AMP
3
5
7
8
46
10
11
12
41
27
26
25
36
31
29
28
L1001
Q1004
+5V CONTROL
L1002
Q1005
+3V CONTROL
L1003
Q1006
+1.8V CONTROL
L1004
Q1007
+15V CONTROL
T1001
1
2
3
4
5
6
7
8
D1002
D1003
L1019
L1020
L1021
Q1008
CAP VM CONTROL
L1005
Q1009
CYL VM CONTROL
L1006
Q1023
D1005
L1012
Q1021
IC1003
SHUNT REGULATOR
L1010
L1009
L1007
L1011
L1008
Q1018
Q1019
L1015
L1014
L1013
L1016
Q1010
IC1002
SHUNT REGULATOR
L1017
L1018
Q1027,Q1028
OVER VOLTAGE PROTECT
Q1024,Q1025, Q1026
REGULATOR
Q1032,Q1033
-7V REGULATOR
Q1030,Q1031
+12V REGULATOR
EVF/LCD +3V
CAM +3.2V
UNREG
(TO IC6001(253)) BATTERY (T)
(TO IC6001(252)) BATTERY (D)
SYS UNREG
AF +5V
LCD-BL +5V
REG +5V (A)
HA +5V
LCD +5V
EVF-BL +5V
A +3V
(FROM IC6001 (174)) EVF BACKLIGHT ON (H)
RF +3V
SP +3V
REG +3V (D)
REG +2.5V (A)
REG +2.5V (D)
REG +1.5V (D)
REG +1.8V (D)
CAM -7V
LCD -15V
CAM +15V
LCD +12V
EVF +15V
CAP VM
CAP SW
CYL VM
CYL SW
TRIANGLE WAVE
TO/FROM SERVO BLOCK DIAGRAM

MAIN C.B.A. LSEP8165B1 (A) / LSEP8165C1 (B) / LSEP8165D1 (C)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

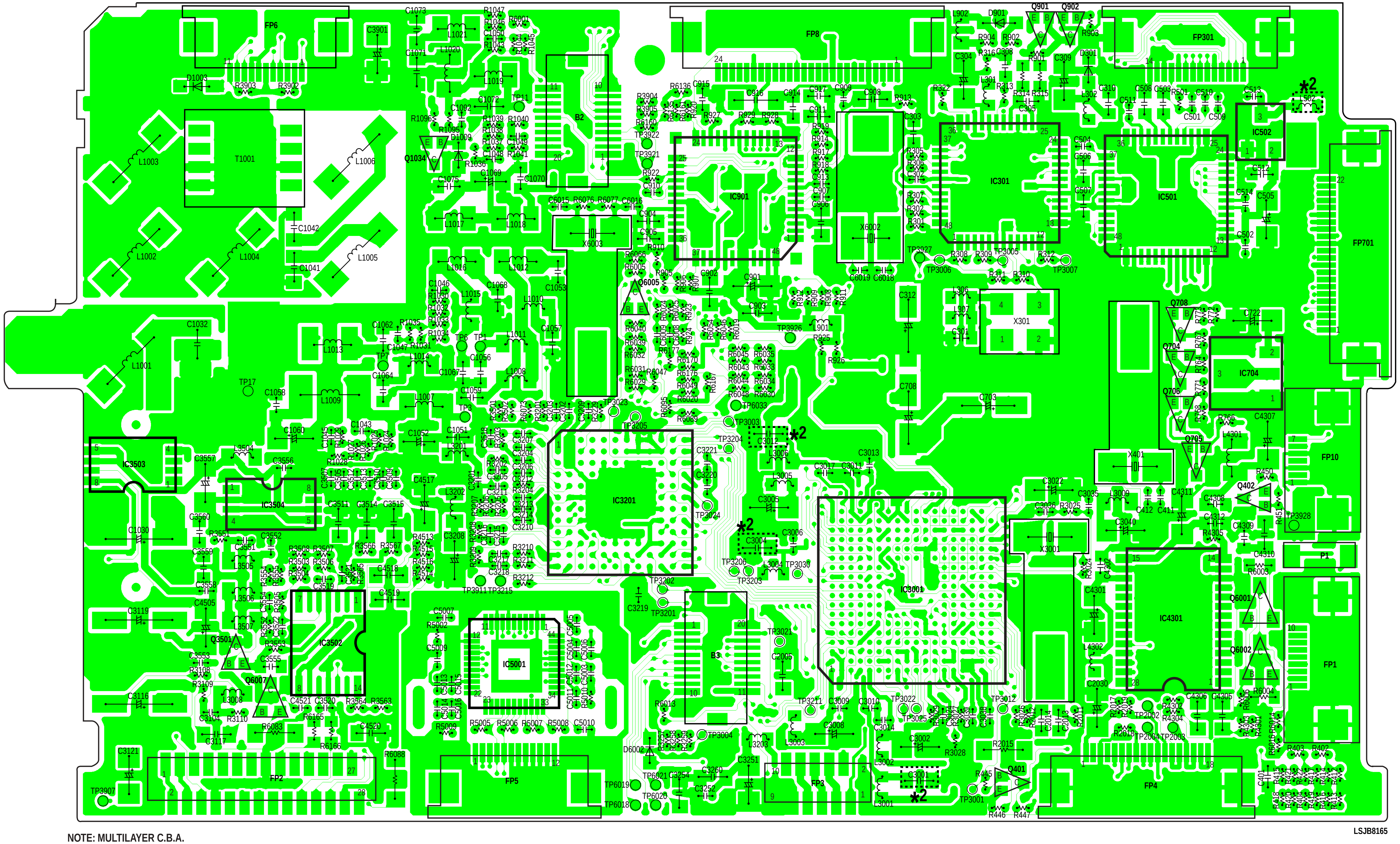
NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

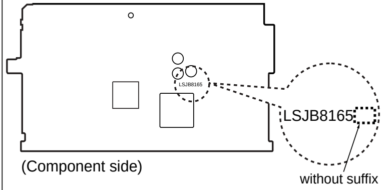
(COMPONENT SIDE)


FP6
FP8
FP301
FP701
FP10
FP1
P1
FP2
FP5
FP3
FP4
T1001
L1001
L1002
L1003
L1004
L1005
L1006
B2
B3
IC901
IC301
IC501
IC502
IC704
IC3201
IC3001
IC4301
IC3503
IC3504
IC3502
IC5001
X6003
X6002
X301
X401
X3001
Q901
Q902
Q1034
Q6005
Q708
Q704
Q706
Q705
Q402
Q6001
Q6002
Q3501
Q6007
Q401
D1003
D901
D301
D6002
C3001
C3004
C3012
*2
TP17
TP3907
TP3001
LSJB8165

✱2
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)

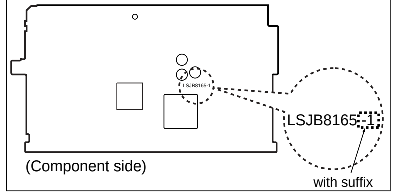
Early Products

Main C.B.A.


LSJB8165
LSJB8165
(Component side)
without suffix

Later Products

Main C.B.A.


LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

MAIN C.B.A. LSEP8165B1 (A) / LSEP8165C1 (B) / LSEP8165D1 (C)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

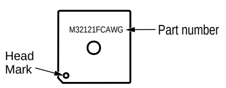
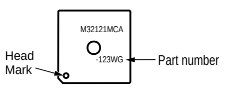
***1**

IC6001 REPLACEMENT NOTE

Two types of IC6001 (M32121FCAWG or M32121MCA123) are used on a running change basis, however IC6001 (M32121MCA123) is supplied only as a replacement part. When replacing IC6001, as in the following cases, it is necessary to replace the resistor at the same time or IC6001 may have a short life.

- When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA123), be sure to move resistor (Ref. No. R6051) to the R6050 location.

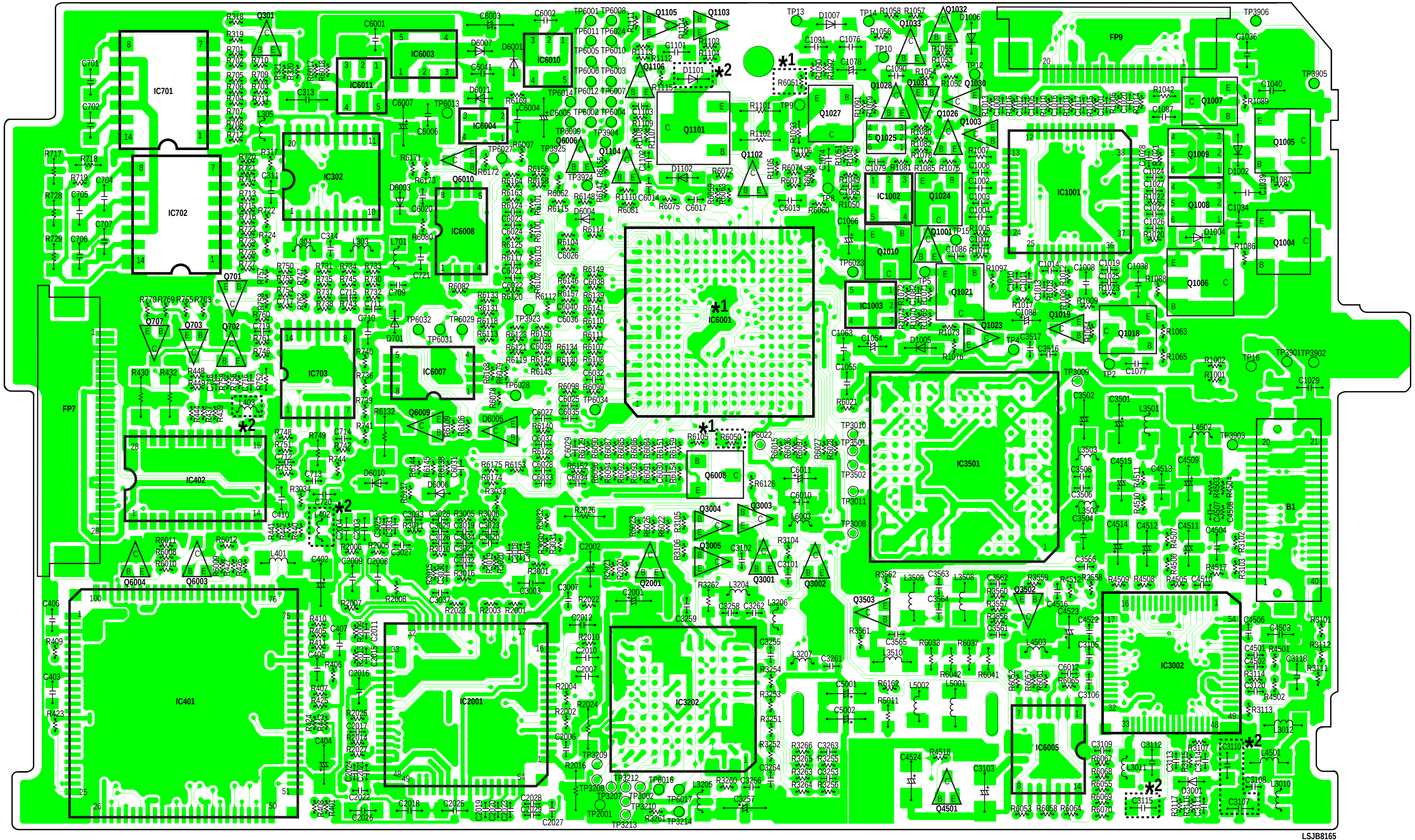
Types of IC6001

M32121FCAWG	 M32121FCAWG Part number Head Mark
M32121MCA123	 M32121MCA -123WG Part number Head Mark

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

(FOIL SIDE)

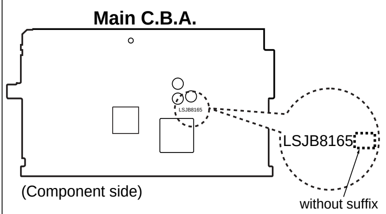

IC701
IC702
IC302
IC6003
IC6010
IC6011
IC6004
IC6008
IC6001
IC1001
IC1002
IC1003
IC703
IC6007
IC402
IC3501
IC401
IC2001
IC3202
IC3002
IC6005
Q1101
Q6008
FP7
FP9
B1
*1
*2
LSJB8165

***2**

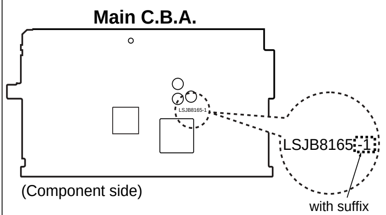
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

NOTE: MULTILAYER C.B.A.
THIS C.B.A. IS Multi-Layer C.B.A. THIS CIRCUIT BOARD SHOWS COMPONENT LAYOUT-PATTERN FOR COMPONENT SIDE AND FOIL SIDE. LAYOUT PATETRNS ARE SINGLE PATTERN FOR EACH SIDE THAT MAKE EASY TO SIGHT THE COMPONENT LAYOUT.

REAR C.B.A. LSEP8183A1 (A) / LSEP8183B1 (B,C)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 1A 32V

1A 32V

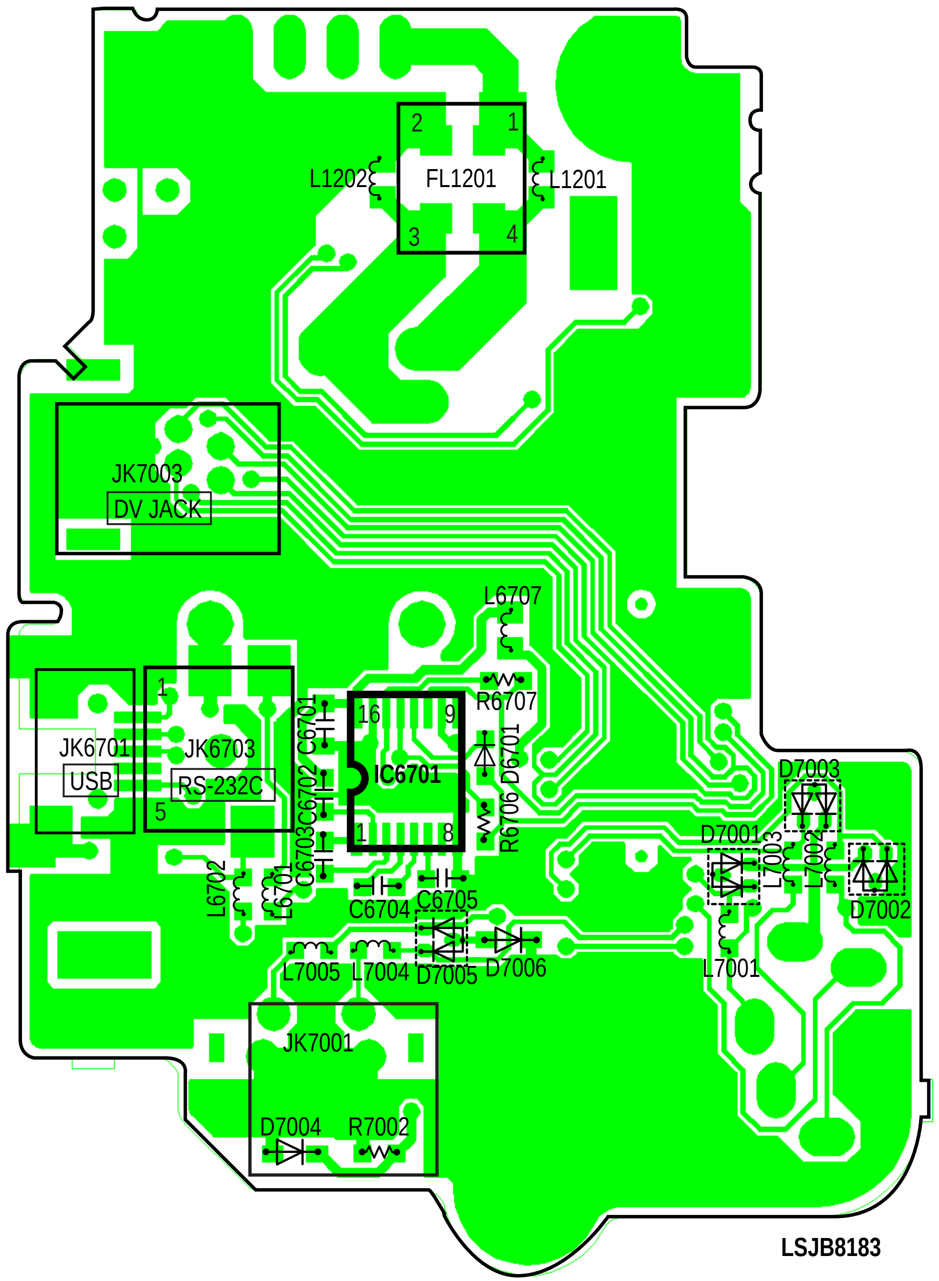
CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 2A 32V

2A 32V

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

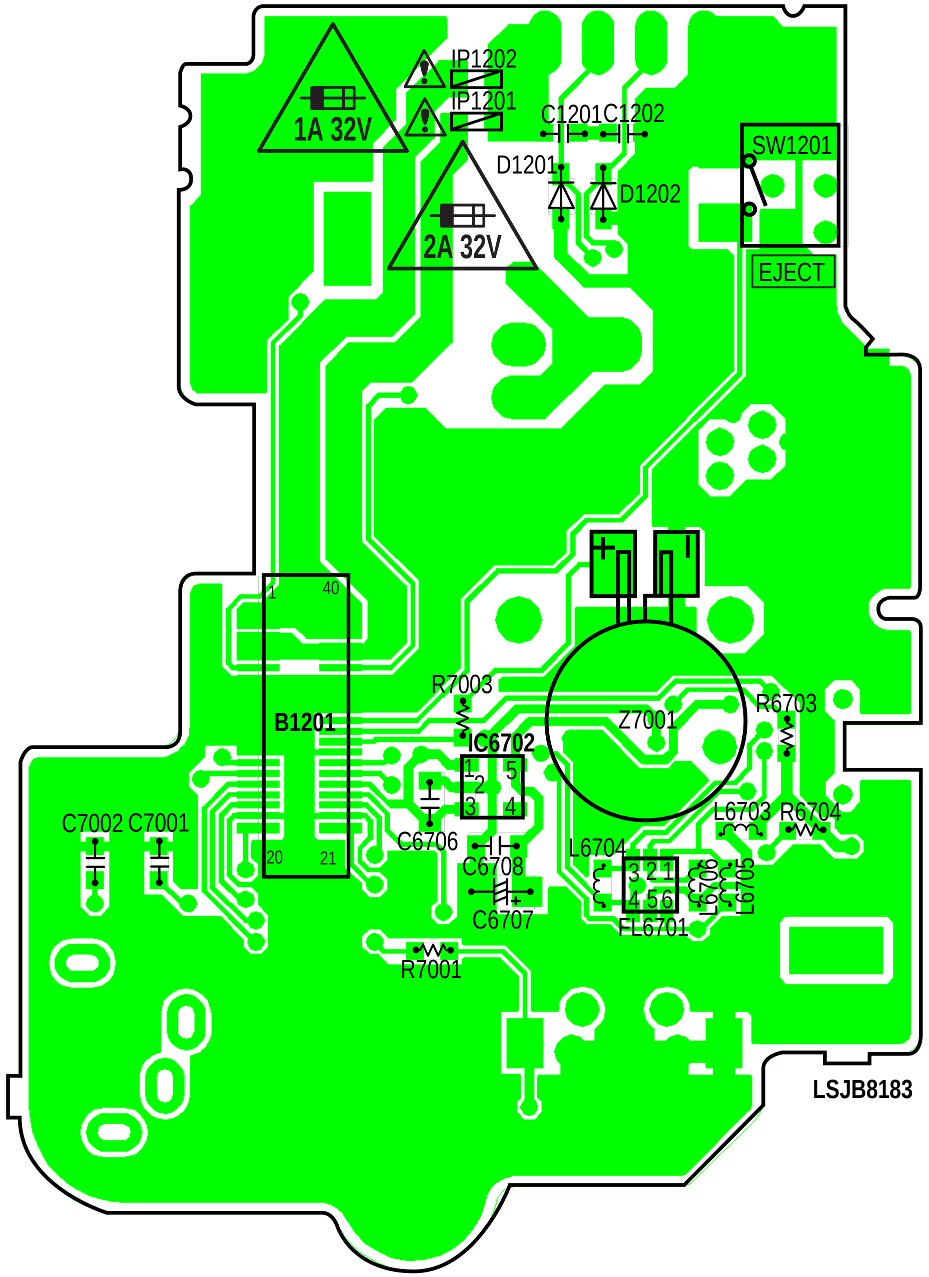
(COMPONENT SIDE)



FL1201
L1202
L1201
2
1
3
4
JK7003
DV JACK
L6707
R6707
16
9
IC6701
1
8
C6701
C6702
C6703
D6701
R6706
JK6701
USB
JK6703
RS-232C
1
5
L6702
L6701
C6704
C6705
D7003
D7001
L7003
L7002
D7002
L7005
L7004
D7005
D7006
L7001
JK7001
D7004
R7002
LSJB8183

(DUAL PATTERNS)

(FOIL SIDE)



1A 32V
IP1202
IP1201
C1201
C1202
2A 32V
D1201
D1202
SW1201
EJECT
1
40
B1201
20
21
R7003
IC6702
1
5
2
3
4
Z7001
R6703
C7002
C7001
C6706
C6708
C6707
L6704
L6703
R6704
3 2 1
4 5 6
FL6701
L6706
L6705
R7001
LSJB8183

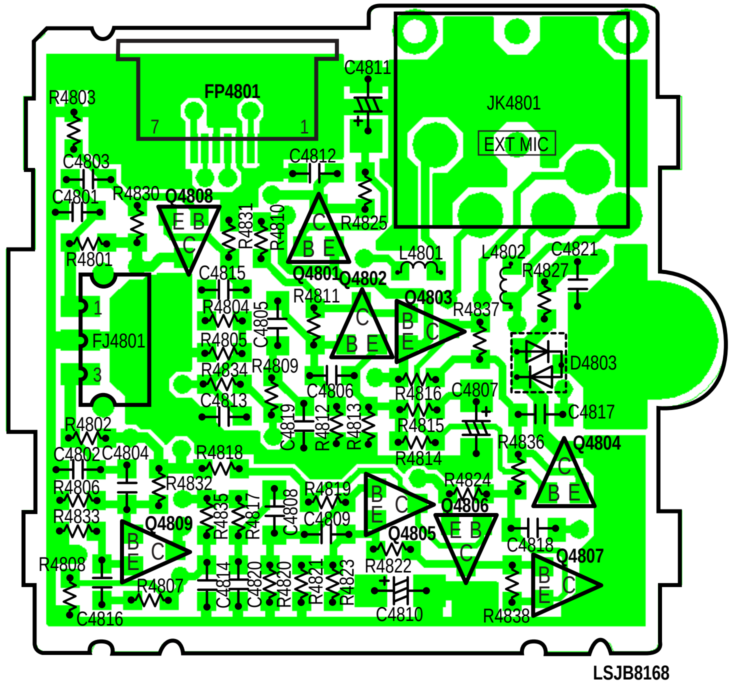
(DUAL PATTERNS)

MICROPHONE C.B.A. LSXM0023 (A,B) / LSXM0024 (C)

"FOR REFERENCE ONLY"

NOTE:
MICROPHONE C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

(FOIL SIDE)



FP4801
7
1
C4811
JK4801
EXT MIC
R4803
C4803
C4812
C4801
R4830
Q4808
E B
C
R4831
R4810
C
R4825
B E
Q4801
Q4802
R4801
C4815
L4801
L4802
C4821
R4827
R4811
Q4803
R4804
C4805
C
B E
B
E C
R4837
FJ4801
1
3
R4805
R4834
R4809
D4803
C4806
C4813
R4816
C4807
R4815
C4817
R4802
C4819
R4812
R4813
R4814
R4836
Q4804
C4802
C4804
R4818
R4832
R4806
R4819
R4824
B E
B
E C
Q4806
R4833
Q4809
R4835
R4817
C4808
C4809
Q4805
E B
C
C4818
Q4807
R4808
B
C E
R4807
C4814
C4820
R4820
R4821
R4823
R4822
B
E C
C4816
C4810
R4838
LSJB8168

(DUAL PATTERNS)

FRONT C.B.A. LSEP8167B1 (A,B) / LSEP8167C1 (C)

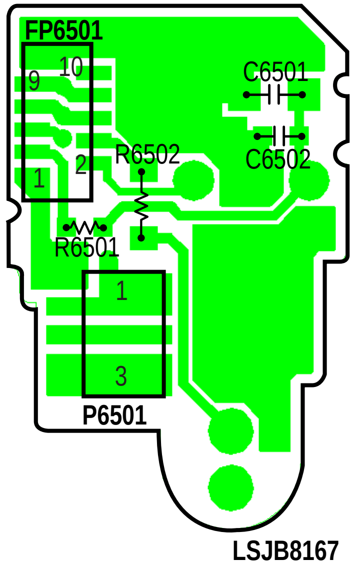
"FOR REFERENCE ONLY"

NOTE:
FRONT C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

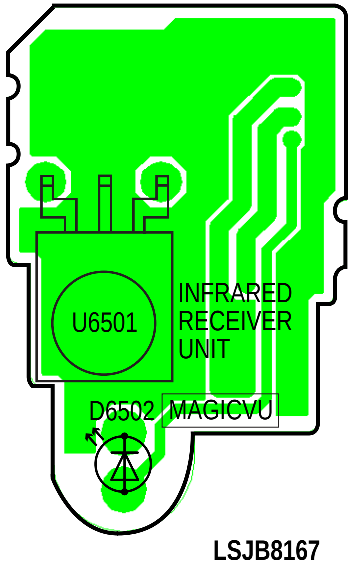
(COMPONENT SIDE)



FP6501
9
10
1
2
C6501
R6502
C6502
R6501
1
3
P6501
LSJB8167

(DUAL PATTERNS)

(FOIL SIDE)



U6501
INFRARED
RECEIVER
UNIT
D6502
MAGICVU
LSJB8167

(DUAL PATTERNS)

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING, PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

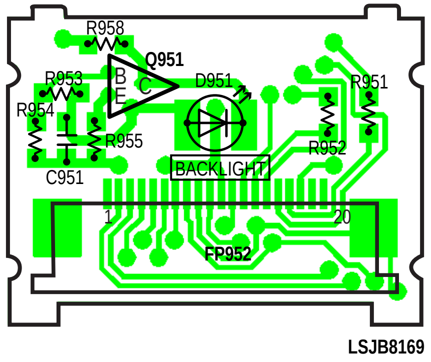
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

EVF BACK LIGHT C.B.A. LSEP8169A1

"FOR REFERENCE ONLY"

NOTE:
EVF BACK LIGHT C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

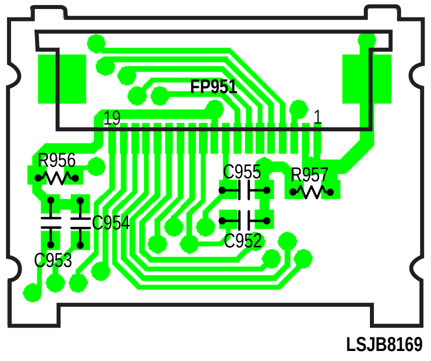
(COMPONENT SIDE)



R958
Q951
B
C
E
R953
D951
R951
R954
R955
R952
C951
BACKLIGHT
1
20
FP952
LSJB8169

(DUAL PATTERNS)

(FOIL SIDE)



FP951
19
1
R956
C955
R957
C954
C952
C953
LSJB8169

(DUAL PATTERNS)

LCD C.B.A. LSEP8188A1 (A,B)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

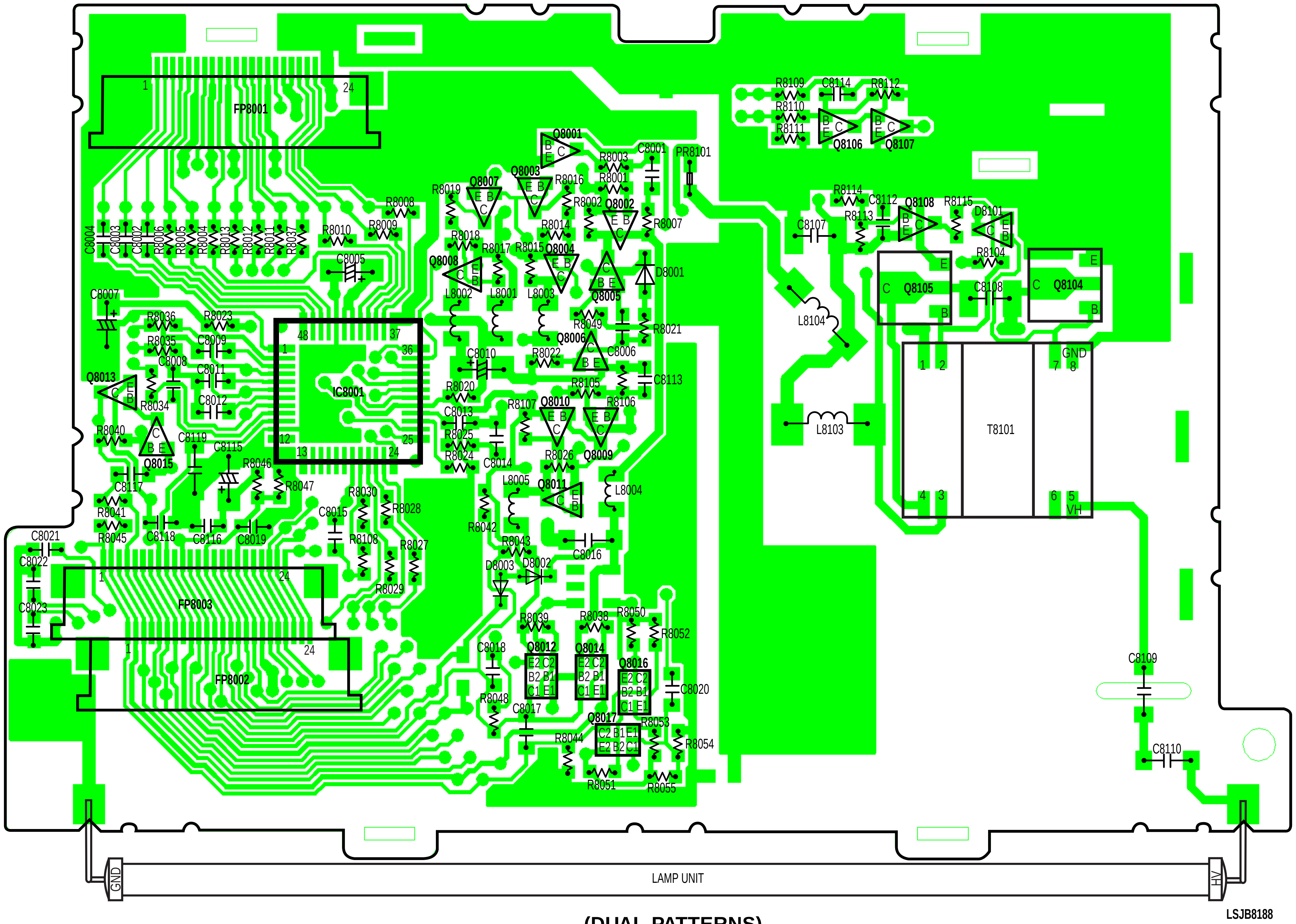
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

(FOIL SIDE)


FP8001
1
24
C8004
C8003
C8002
R8006
R8005
R8004
R8013
R8012
R8011
R8037
R8010
R8009
R8008
C8005
C8007
R8036
R8023
R8035
C8009
C8008
C8011
Q8013
R8034
C8012
R8040
Q8015
C8119
C8115
R8046
R8047
C8117
R8041
R8045
C8118
C8116
C8019
C8015
R8030
R8028
R8108
R8027
R8029
C8021
C8022
C8023
FP8003
FP8002
IC8001
48
37
36
12
25
13
Q8001
R8003
C8001
PR8101
Q8003
R8016
R8001
R8019
Q8007
R8002
Q8002
R8007
R8014
R8018
R8017
R8015
Q8004
Q8008
D8001
L8002
L8001
L8003
Q8005
R8049
R8021
Q8006
C8006
C8010
R8022
C8113
R8020
R8105
R8106
R8107
Q8010
C8013
R8025
R8024
C8014
R8026
Q8009
L8005
Q8011
L8004
R8042
R8043
C8016
D8003
D8002
R8039
R8038
R8050
R8052
C8018
Q8012
Q8014
Q8016
C8020
R8048
C8017
Q8017
R8053
R8044
R8054
R8051
R8055
R8109
C8114
R8112
R8110
R8111
Q8106
Q8107
R8114
C8112
Q8108
R8115
D8101
C8107
R8113
R8104
Q8105
C8108
Q8104
L8104
L8103
T8101
GND
VH
C8109
C8110
LAMP UNIT
GND
HV
LSJB8188

(DUAL PATTERNS)

LCD C.B.A. LSEP8178A1 (C)

NOTE:
CIRCUIT BOARD LAYOUT SHOWS COMPONENTS INSTALLED FOR VARIOUS MODELS.
FOR PROPER PARTS CONTENT FOR THE MODEL YOU ARE SERVICING,
PLEASE REFER TO THE SCHEMATIC DIAGRAM AND PARTS LIST.

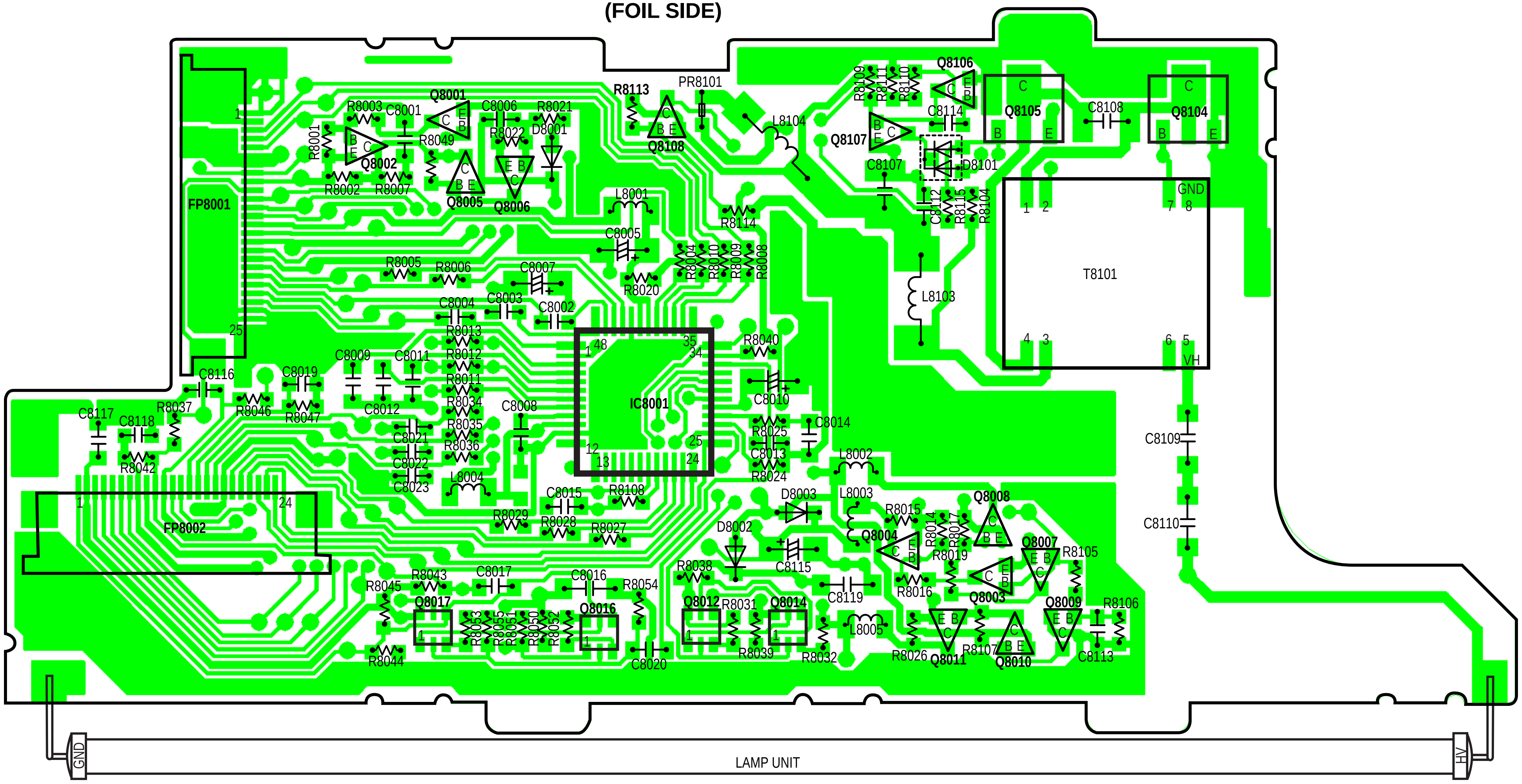
NOTE:
CIRCUIT BOARD LAYOUT INCLUDES COMPONENTS WHICH ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

(FOIL SIDE)


FP8001
1
25
FP8002
1
24
R8001
R8002
R8003
C8001
Q8001
Q8002
R8007
R8049
Q8005
C8006
R8021
R8022
D8001
Q8006
R8113
PR8101
Q8108
L8104
R8109
R8111
R8110
Q8106
C8114
Q8107
C8107
D8101
C8112
R8115
R8104
Q8105
C8108
Q8104
GND
1
2
7
8
T8101
4
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VH
L8103
L8001
R8114
C8005
R8020
R8004
R8010
R8009
R8008
R8005
R8006
C8007
C8004
C8003
C8002
R8013
R8012
R8011
R8034
R8035
R8036
C8009
C8011
C8019
C8012
C8116
C8117
C8118
R8037
R8042
R8046
R8047
C8021
C8022
C8023
L8004
C8008
IC8001
48
1
35
34
12
13
25
24
R8040
C8010
C8014
R8025
C8013
R8024
L8002
C8109
C8110
C8015
R8108
R8028
R8029
R8027
D8003
L8003
D8002
C8115
R8015
R8014
R8017
Q8008
Q8004
R8019
Q8007
R8105
R8016
Q8003
C8119
R8038
Q8012
R8031
Q8014
R8039
R8032
L8005
R8026
Q8011
R8107
Q8010
Q8009
R8106
C8113
R8045
R8043
Q8017
R8044
C8017
R8053
R8055
R8051
R8050
R8052
C8016
Q8016
R8054
C8020
GND
LAMP UNIT
HV

(DUAL PATTERNS)

LSJB8178

MAIN PARTS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	Cassette Cover Ass'y	❶	6(L-1)	1
2	⑪	Side Case L Unit	❶	6(404)-1, (L-2), P1, FP6, FP9	2,3
3	-	Front Case Ass'y	❶	2(404)-3, FP1	-
4	(E10)	Main C.B.A.	❶	(510)-4, 3(L-3), B1, FP2, FP3, FP4, FP5, FP7, FP8, FP10, FP301, FP701	4
5	(E20)	Rear C.B.A.	❶	2(404)-5, (510)-5	5
6	-	Lens Ass'y	❶	-----	6
7	-	Top Case & EVF Ass'y	❶	2(404)-6	7
8	①	Mechanism Chassis Ass'y	❶	(404)-7, 3(L-4)	8
9	-	Side Case R Ass'y	❶	-----	-

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

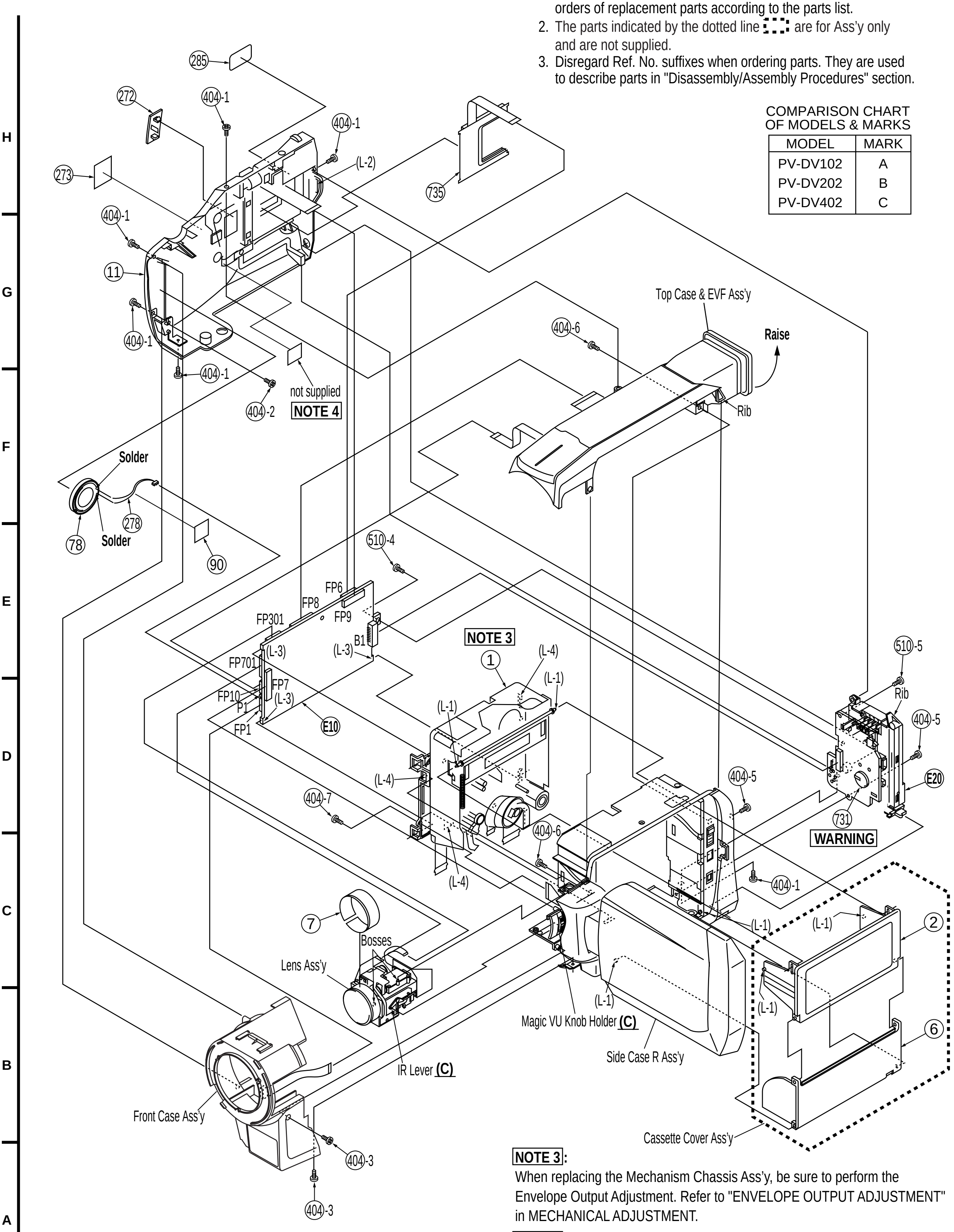
❶ MAIN PARTS SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C



H
G
F
E
D
C
B
A
285
272
404-1
404-1
(L-2)
273
735
404-1
11
404-1
404-1
404-1
404-2
not supplied
NOTE 4
Top Case & EVF Ass'y
404-6
Raise
Rib
Solder
Solder
78
278
90
510-4
FP6
FP8
FP9
FP301
B1
(L-3)
(L-3)
FP701
FP7
(L-3)
FP10
P1
FP1
E10
NOTE 3
1
(L-4)
(L-1)
(L-1)
(L-4)
404-7
(L-4)
404-6
404-5
510-5
Rib
404-5
E20
731
WARNING
404-1
(L-1)
(L-1)
2
(L-1)
(L-1)
6
7
Bosses
Lens Ass'y
Magic VU Knob Holder (C)
IR Lever (C)
Side Case R Ass'y
Front Case Ass'y
404-3
404-3
Cassette Cover Ass'y
1
2
3
4
5
6

NOTE 3:

When replacing the Mechanism Chassis Ass'y, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.

NOTE 4:

In early products, a sheet is used. When replacing the Side Case L Unit, it is not neccessary to place the sheet.

WARNING:

DANGER OF EXPLOSION IF BATTERY IS INCORRECTLY REPLACED.
REPLACE ONLY WITH THE SAME OR EQUIVALENT TYPE.

FRONT CASE PORTION & LAMP PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(83)	Lens Hood	❷	3(404)-1	-
2	(84)	Lens Ring	❷	-----	-
3	(E40)	Front C.B.A.	❷	(404)-2, P6501	-
4	(89)	Front ESD Angle	❷	(L-1)	-
5	(82)	Infrared Panel	❷	2(L-2)	-
6	(81)	Front Case	❷	-----	-

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(281)	Light Protector	❷	3(L-3)	-
2	(282)	Light Reflector	❷	2(404)-3	-
3	(284)	Lamp Socket Unit	❷	-----	-
4	(283)	Lamp	❷	-----	9

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

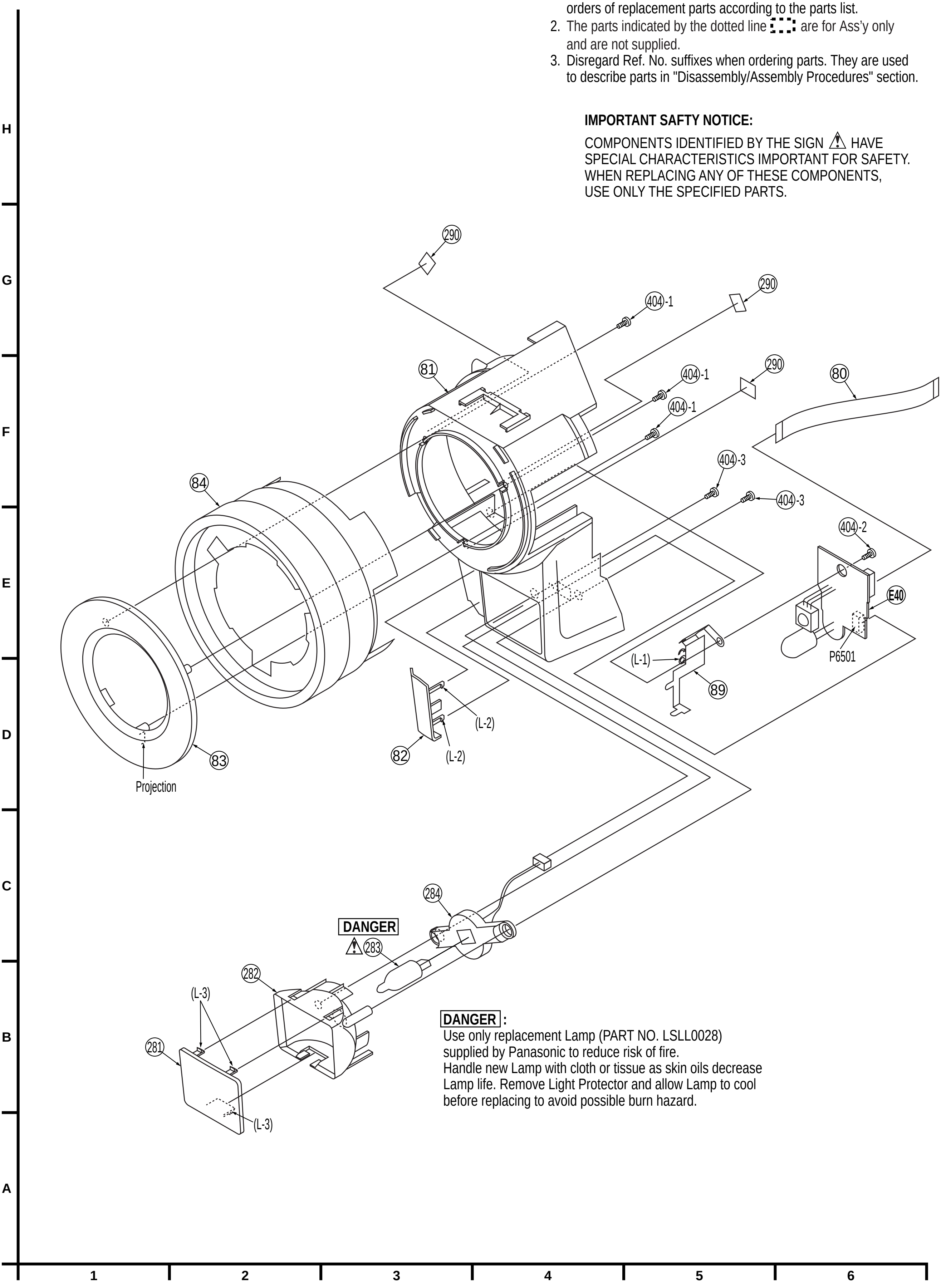
❷ FRONT CASE SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

IMPORTANT SAFTY NOTICE:

COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS, USE ONLY THE SPECIFIED PARTS.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290
290
290
404-1
404-1
404-1
81
80
84
404-3
404-3
404-2
E40
P6501
(L-1)
89
82
(L-2)
(L-2)
83
Projection
284
DANGER
⚠283
282
(L-3)
(L-3)
281

DANGER :
Use only replacement Lamp (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire.
Handle new Lamp with cloth or tissue as skin oils decrease Lamp life. Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

CCD PORTION & LENS PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(E70)	CCD C.B.A.	❸	2(422)	10
2	(66)	Filter Rubber	❸	-----	10
3	㉒	Optical Filter	❸	-----	10
4	(64)	Infrared Cut Filter (For model without Magic VU)	❸	-----	10

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(69)	Focus Motor Unit	❸	2(507), Unsolder	-
2	(68)	Zoom Motor Unit	❸	3(507), Unsolder	11

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

❸ CCD AND LENS SECTION

Note:

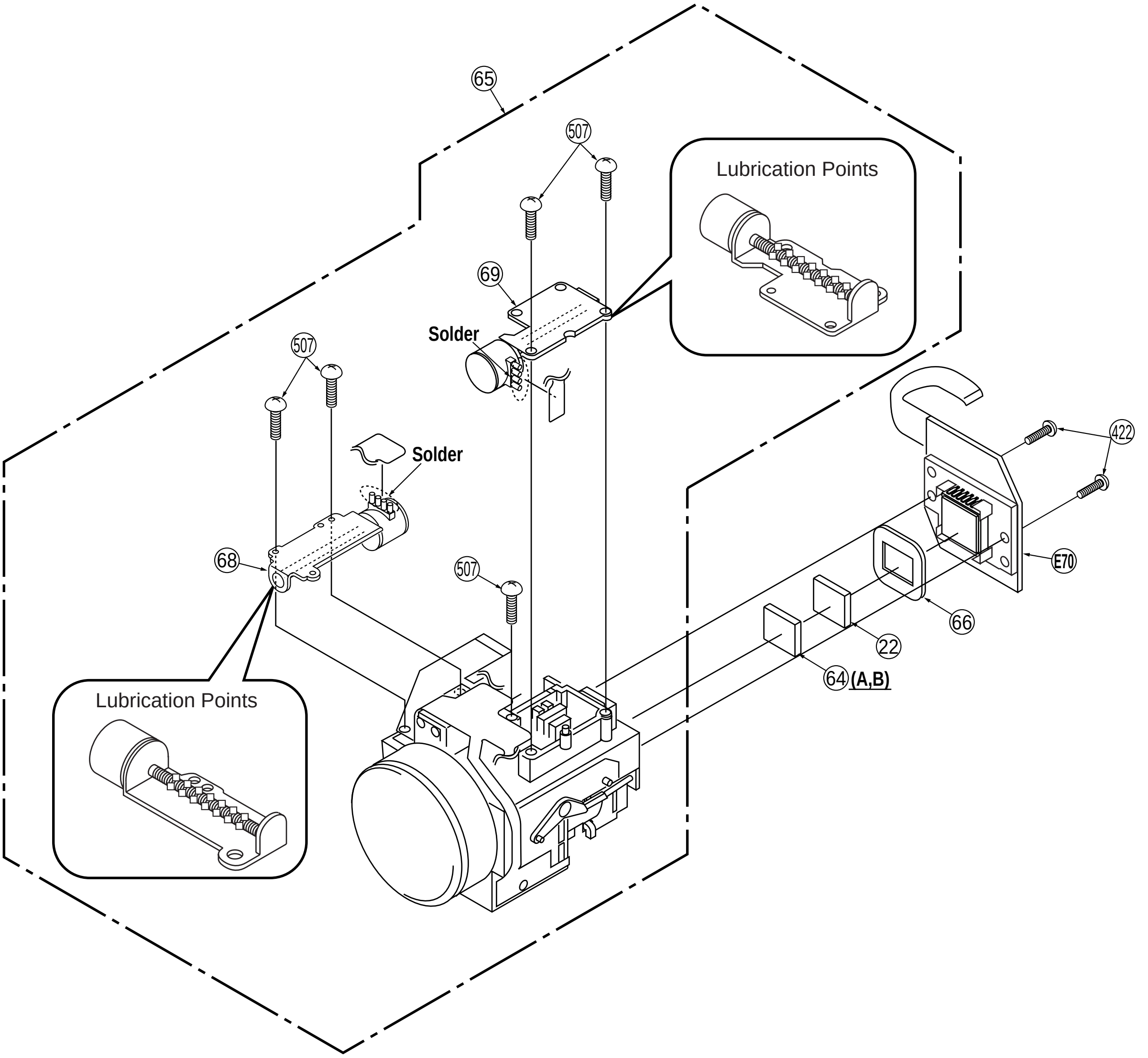
1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⁝⁝ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

LUBRICATION POINTS
When the marked parts are replaced, apply the recommended lubricants or adhesive for better maintenance of the unit.

Mark	Kind of Lubricant	Availability	Part Number
☐ ☐ ☐	Grease	Availability from Factroy	LSUQ0002



65
507
Lubrication Points
69
Solder
507
Solder
422
68
507
E70
66
22
64 (A,B)
Lubrication Points
H
G
F
E
D
C
B
A
1
2
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4
5
6

TOP CASE PORTION & EVF PORTION

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(E80)	Top Operation C.B.A.	❹	4(416), P001	-
2	(E30)	Microphone C.B.A.	❹	(404)	-
3	㊿	EVF Unit	❹	3(L-1)	12

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

Note:
When disassembling or reassembling, make sure that no dust gets in EVF Unit.

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	-	EVF Case Ass'y	❹	(402), FP951	13
2	㊵	Eye Cap	❹	-----	-
3	(60)	EVF Protect A	❹	4(L-2)	-
4	(E50) ㊹ (57) (54) (276) (274)	EVF Back Light C.B.A. LED Holder LED Diffusion Sheet LCD Panel Protect Plate B EVF Mask	❹	2(L-3), FP952 2(L-4) 2(L-5) ----- ----- -----	-
5	(58)	Protect Plate A	❹	-----	-
6	(56) (55)	Lens Lens Holder	❹	(L-6) -----	14
7	(53)	Eye Sight Lever A	❹	(402)	14
8	(52)	Eye Sight Lever B	❹	-----	14
9	(59)	EVF Protect B	❹	-----	-

↑ A ↑ B ↑ C ↑ D ↑ E ↑ F

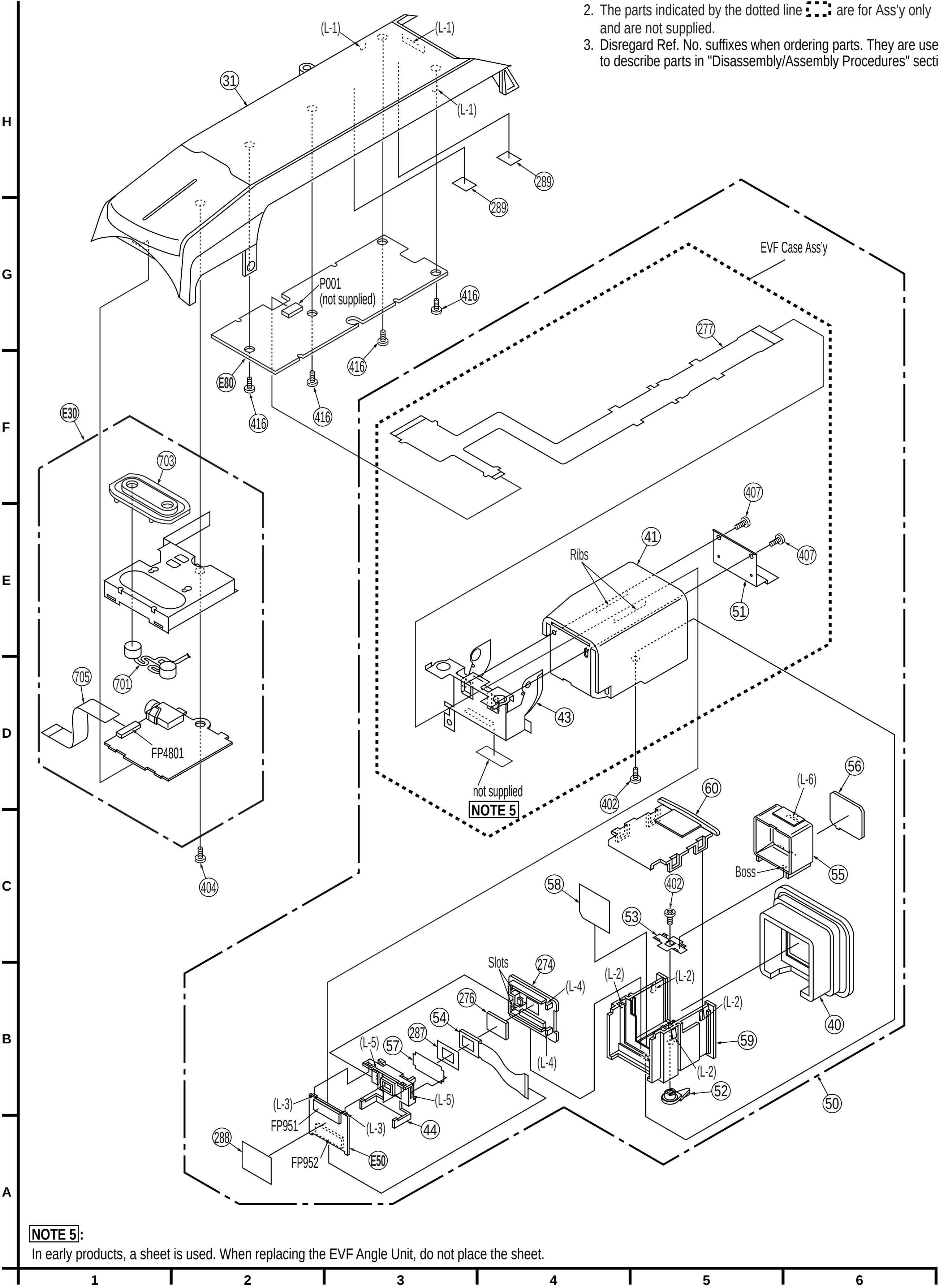
How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

❹ TOP CASE AND EVF SECTION

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.



H
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1
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6
(L-1)
(L-1)
(L-1)
31
289
289
EVF Case Ass'y
P001
(not supplied)
416
416
416
416
E80
E30
277
703
407
41
407
Ribs
51
43
705
701
FP4801
not supplied
NOTE 5
402
60
56
(L-6)
404
Boss
55
58
402
53
Slots
274
(L-4)
(L-2)
(L-2)
(L-2)
276
54
287
(L-5)
57
(L-4)
59
40
(L-2)
52
50
(L-3)
(L-5)
FP951
(L-3)
44
288
FP952
E50

NOTE 5:

In early products, a sheet is used. When replacing the EVF Angle Unit, do not place the sheet.

SIDE CASE R PORTION & LCD PORTION (For model with 2.5 inch LCD Monitor)

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(261)	Front Cover	❺	(404)	-
2	-	LCD Case Ass'y	❺	(404), (509)	15
3	(72)	Tripod Frame	❺	(402)	-

A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(94)	LCD Cace A Unit	❺	2(403), 9(L-1)	-
2	(96)	LCD Shaft Unit	❺	FP8001	-
3	(95)	LCD Case B	❺	(404)	16
4	(E60)	LCD C.B.A.	❺	(511), 3(L-2), FP8002, Unsolder	17
5	(98)	LCD Panel Unit	❺	8(L-3)	17
6	(99)	Lead Light Panel Unit	❺	-----	17
7	(100)	Lamp Unit	❺	3(L-4), LCD Sheet Unit	18

A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

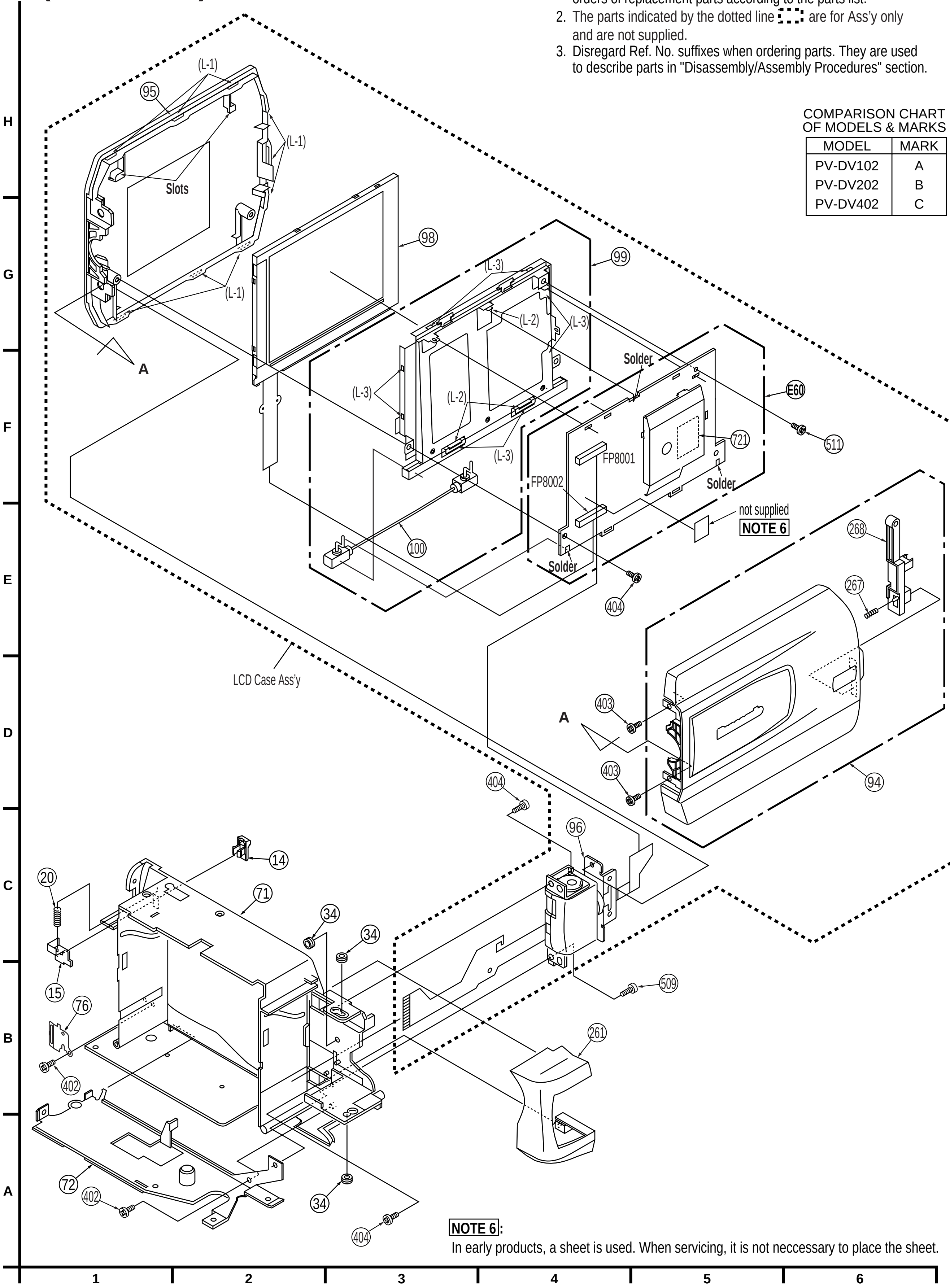
❺ SIDE CASE R AND LCD SECTION (Model: A, B)

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C



H
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E
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C
B
A
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2
3
4
5
6
(L-1)
95
(L-1)
Slots
(L-1)
A
98
99
(L-3)
(L-2)
(L-3)
(L-3)
(L-2)
(L-3)
100
Solder
E60
721
511
FP8001
FP8002
Solder
Solder
not supplied
NOTE 6
404
268
267
LCD Case Ass'y
403
A
403
94
404
96
14
20
71
34
34
15
76
509
261
402
72
402
34
404

NOTE 6: In early products, a sheet is used. When servicing, it is not neccessary to place the sheet.

SIDE CASE R PORTION & LCD PORTION (For model with 3.5 inch LCD Monitor)

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(261)	Front Cover	❺	(404)	19
2	-	LCD Case Ass'y	❺	(404), (509)	15
3	(72)	Tripod Frame	❺	(402)	-

↑ ↑ ↑ ↑ ↑ ↑
A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

STEP No.	Ref. No.	PART	Section No.	REMOVE	NOTE
1	(94)	LCD Cace A Unit	❺	2(403), 9(L-1)	-
2	(96)	LCD Shaft Unit	❺	FP8001	-
3	(95)	LCD Case B	❺	2(L-2)	16
4	(E60)	LCD C.B.A.	❺	3(L-3), FP8002, Unsolder	-
5	(262)	LCD Earth Plate Unit	❺	6(L-4)	-
6	(263)	LCD Panel	❺	(270), (271)	20
7	(264)	LCD Reflect Frame Unit	❺	-----	20
8	(265)	Lamp	❺	2(L-4), 2(L-5), LCD Diffusion Sheet, Lead Light Panel	20

↑ ↑ ↑ ↑ ↑ ↑
A B C D E F

How to read chart shown above:

A: Order of Procedure steps.
When reassembling, perform steps(s) in reverse order.
B: Ref No.
C: Part to be removed or installed.
D: Section No.
E: Identification of part to be removed, unhooked, unlocked, released, unplugged, unclamped, or unsoldered.
3(404) = 3 Screws (404), 2(L-1) = 2 Looking Tabs (L-1)
F: Refer to "Notes in chart."

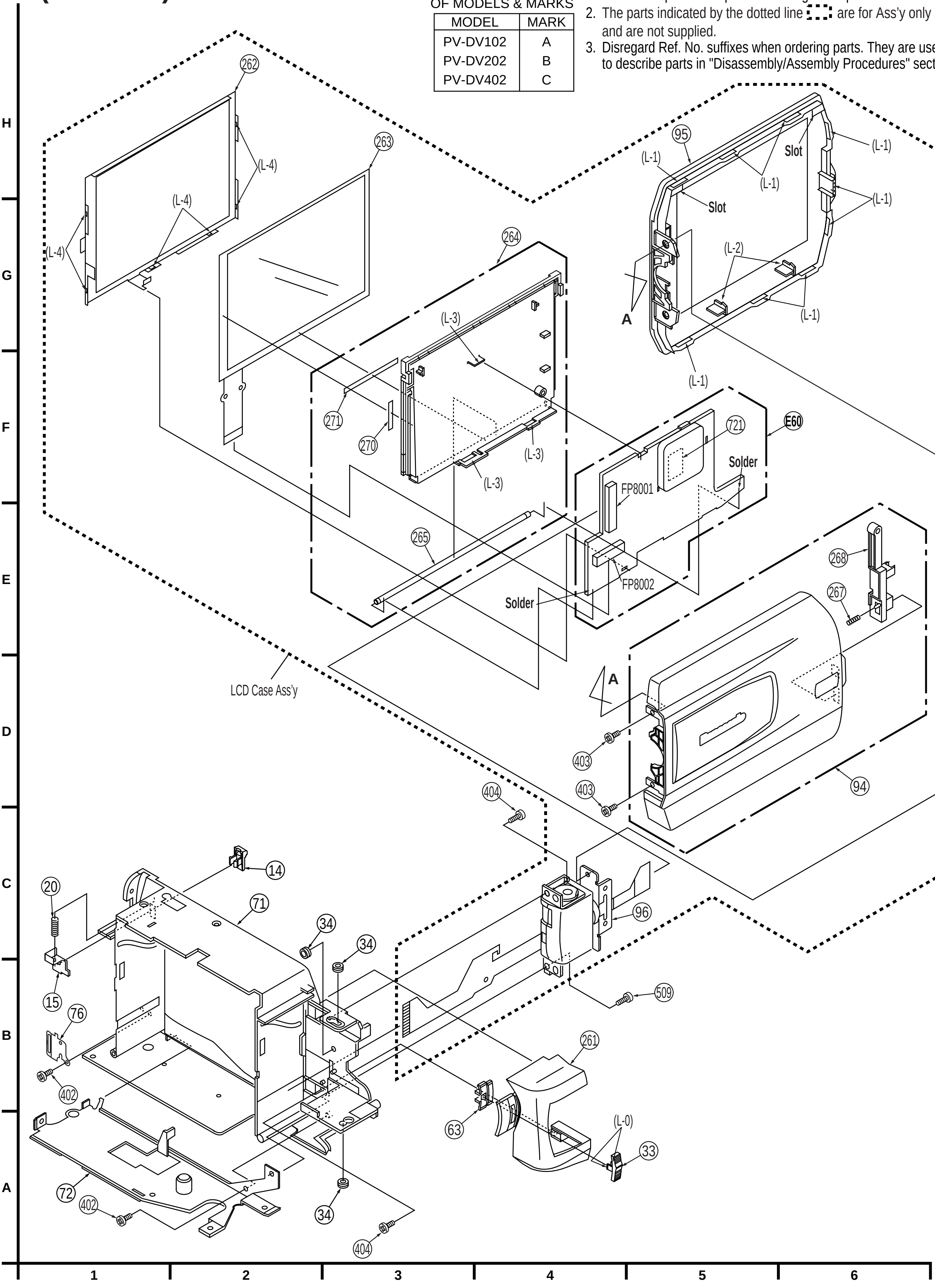
❺ SIDE CASE R AND LCD SECTION
(Model: C)

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C

Note:

1. Parts with no Ref. No. in "EXPLODED VIEW" are not supplied. And some Ref. No. will be skipped. Be sure to make your orders of replacement parts according to the parts list.
2. The parts indicated by the dotted line ⬚ are for Ass'y only and are not supplied.
3. Disregard Ref. No. suffixes when ordering parts. They are used to describe parts in "Disassembly/Assembly Procedures" section.


262
263
(L-4)
(L-4)
(L-4)
264
(L-3)
(L-3)
(L-3)
271
270
265
LCD Case Ass'y
95
(L-1)
Slot
(L-1)
(L-1)
Slot
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E60
Solder
FP8001
FP8002
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268
267
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403
403
94
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261
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(L-0)
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Notes in chart

1. **Removal of Cassette Cover Ass'y**

   CAUTION:

   Be careful not to apply any pressure to the Garage Unit of the Mechanism Chassis Ass'y.

   Remove it in the order shown below.

   1) Open the LCD.
   2) Slide the EJECT Switch with the power supplied.

      Note:

      If it doesn't, eject manually. Refer to "METHOD FOR EJECTING WITH POWER OFF."

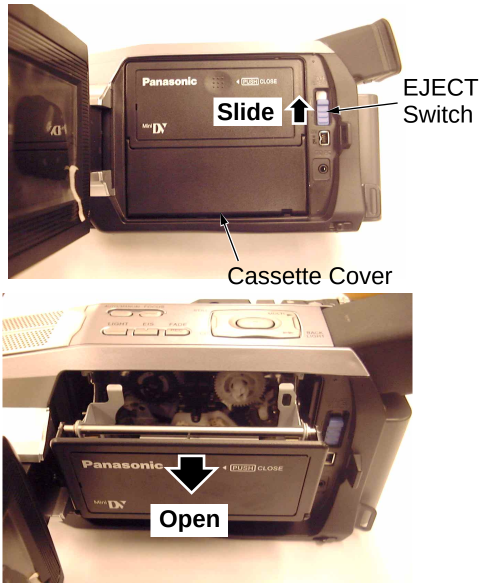

Slide
EJECT Switch
Cassette Cover
Open

Fig. D2-1

3) Push the Cassette Cover to release the Locking Tab (L-1a) as shown.

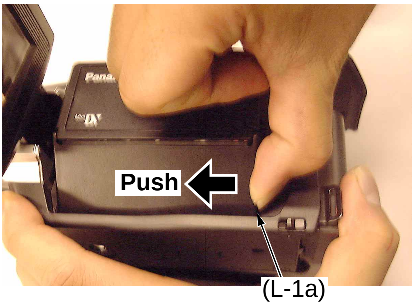


Fig. D2-2

4) Push the Cassette Cover to release the Locking Tab (L-1b).

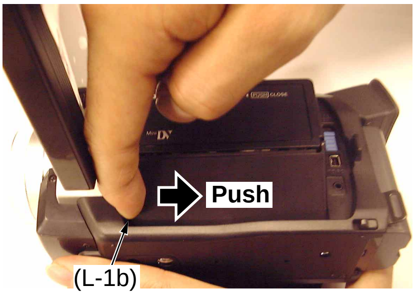


Fig. D2-3

5) Push the both side of the Cassette Cover to release the Locking Tabs (L-1c) and (L-1d) from the slots of the Side Case R.

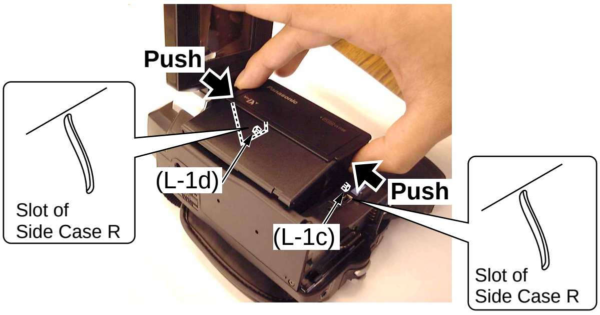

Push
Slot of Side Case R
(L-1d)
Push
(L-1c)
Slot of Side Case R

Fig. D2-4

6) Open the Cassette Cover as shown.

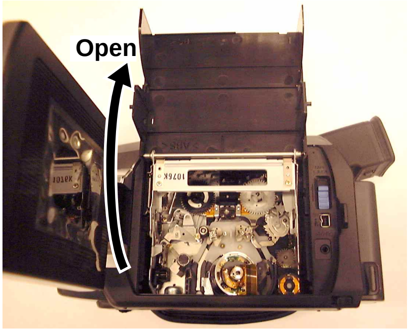


Fig. D2-5

7) Pinch and pull the Cassette Cover to release the Locking Tab (L-1e) while holding the Garage Unit carefully as shown. Then, release the Locking Tab (L-1f).

   CAUTION:

   Do not break the Cassette Cover.

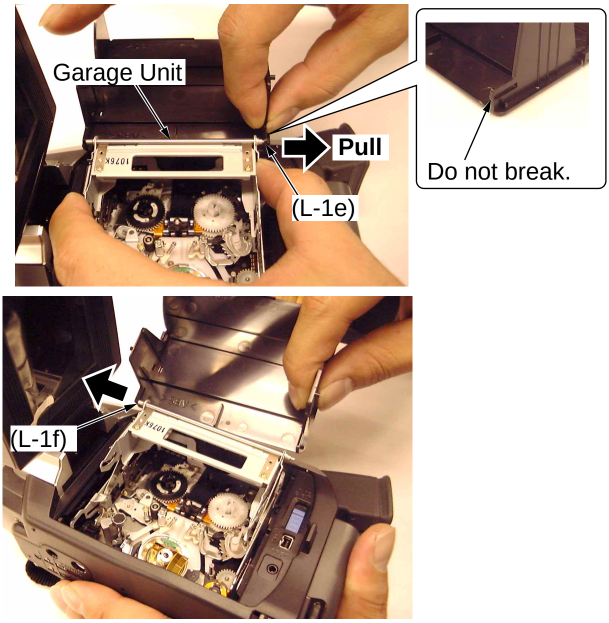

Garage Unit
Pull
(L-1e)
Do not break.
(L-1f)

Fig. D2-6

Installation of Cassette Cover Ass'y

CAUTION:

Be careful not to apply any pressure to the Garage Unit of the Mechanism Chassis Ass'y.

Install it in the order shown below.

1) Set the Locking Tabs (L-1f). Then, pinch and pull the Cassette Cover to set the Locking Tab (L-1e) while holding the Garage Unit carefully. Then, put the Cassette Cover on the Mechanism Chassis Ass'y.

   CAUTION:

   Do not break the Cassette Cover.

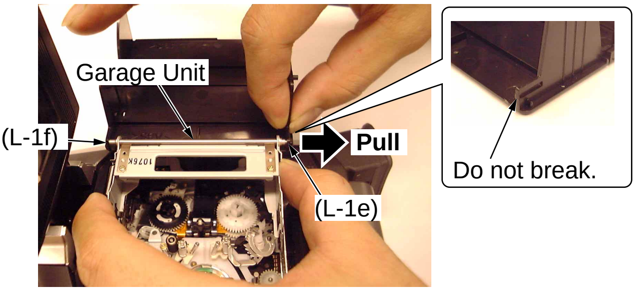

Garage Unit
(L-1f)
Pull
(L-1e)
Do not break.

Fig. D2-7

2) Push the both side of the Cassette Cover to set the Locking Tabs (L-1c) and (L-1d) to slots of the Side Case R.

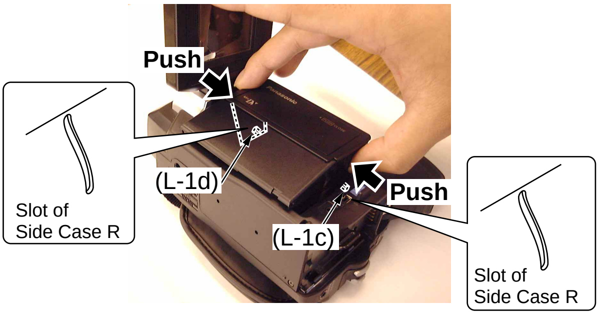

Push
Slot of
Side Case R
(L-1d)
Push
(L-1c)
Slot of
Side Case R

Fig. D2-8

3) Push down the upper portion of the Cassette Cover to close as shown.

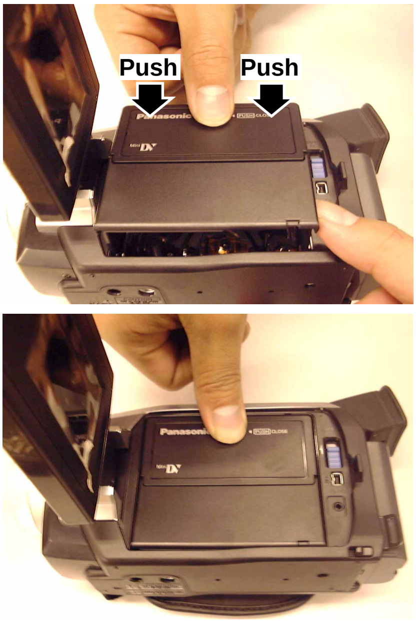


Fig. D2-9

4) Push down the lower portion of the Cassette Cover to set Locking Tabs (L-1a) and (L-1b).

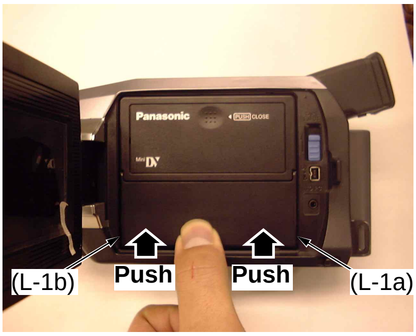

(L-1b)
Push
Push
(L-1a)

Fig. D2-10

2. **Removal of Side Case L Unit**

Take care not to damage the F.P.C.s or the Speaker Cable.

1) After removing the 6 Screws (404-1), release the Portion A of the Side Case L Unit at first. Then, release the Phone Jack of the Rear C.B.A.
2) Disconnect the Speaker Cable and the F.P.C.s from the Connectors P1, FP6 and FP9.

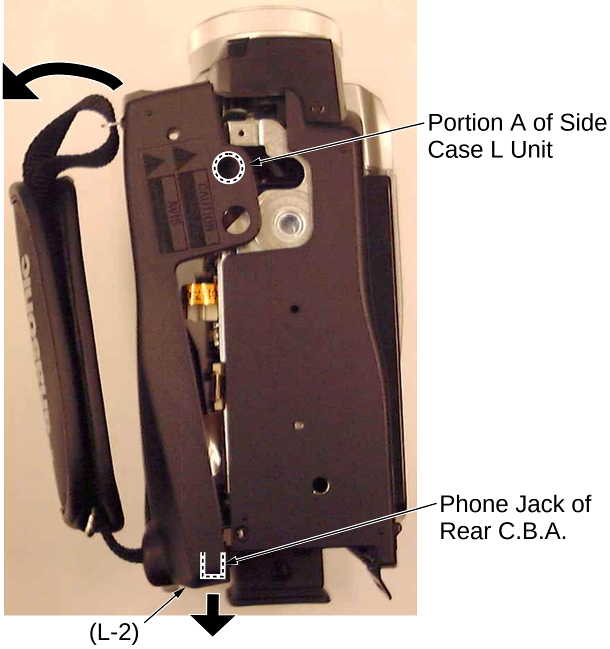

Portion A of Side Case L Unit
Phone Jack of Rear C.B.A.
(L-2)

Fig. D3

Installation of Zoom Switch F.P.C. of Side Case L Unit

When connecting the Zoom Switch F.P.C. to the Connector FP9 on the Main C.B.A., make it as shown.

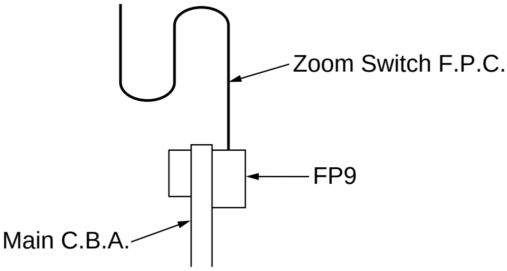

Zoom Switch F.P.C.
FP9
Main C.B.A.

Fig. D4

3. **Removal of Speaker**

1) Open the Hand Strap and release it from the hole of the Strap Angle front.
2) Remove the Screw (404-2).
3) Remove the Strap Angle front and the Speaker Angle. Then, remove the Speaker.

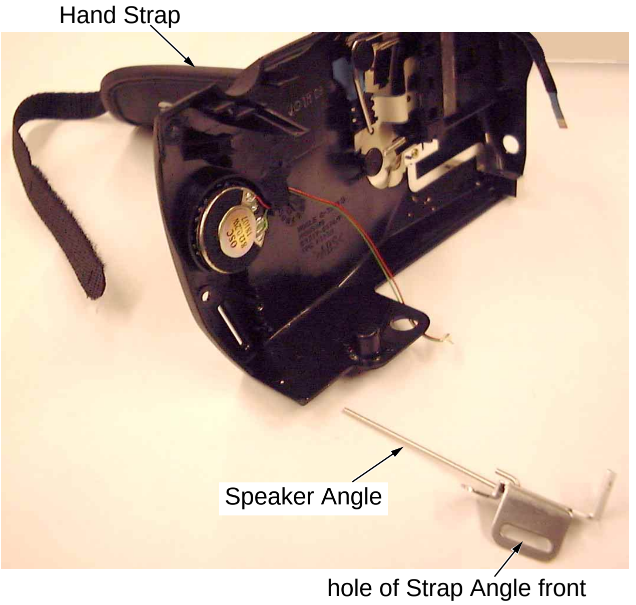

Hand Strap
Speaker Angle
hole of Strap Angle front

Fig. D5

4. **Installation of Main C.B.A.**

Take care not to damage the Flexible Cables.

1) Connect the Flexible Cables to the connectors on the Main C.B.A, verifying that the direction of the Flexible Cables is correct. Refer to "REMOVAL/INSTALLATION OF F.P.C. FROM NON ZIF (Zero Insertion Force) CONNECTOR."

5. **Removal/Installation of Rear C.B.A.**

When removing/installing the Rear C.B.A., raise the EVF Ass'y.

6. **(For model with Magic VU)**
   Installation of Lens Ass'y
   Install the Lens Ass'y so that the IR Lever is set to the Magic VU Knob Holder.

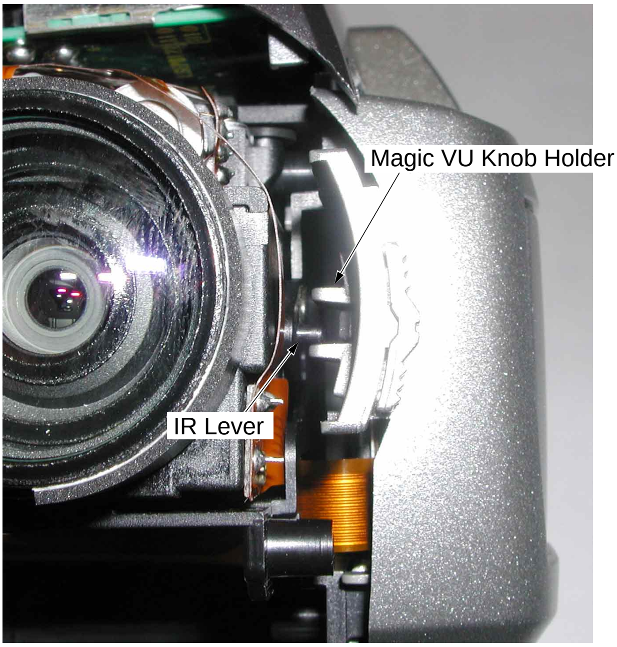


Fig. D6

7. **Removal of Top Case & EVF Ass'y**
   To remove the Screw (404-6), raise the EVF Ass'y.
   Installation of Top Case & EVF Ass'y
   Secure the Rib of the Top Case & EVF Ass'y to the Side Case R Ass'y.

8. **Replacement of Mechanism Chassis Ass'y**
   When replacing the Mechanism Chassis Ass'y, be sure to perform the Envelope Output Adjustment. Refer to "ENVELOPE OUTPUT ADJUSTMENT" in MECHANICAL ADJUSTMENT.
   Installation of Mechanism Chassis Ass'y
   When installing the Mechanism Chassis Ass'y, be sure to make the Capstan F.P.C. between the Mechanism Chasis Ass'y and the Tripod Frame as shown.

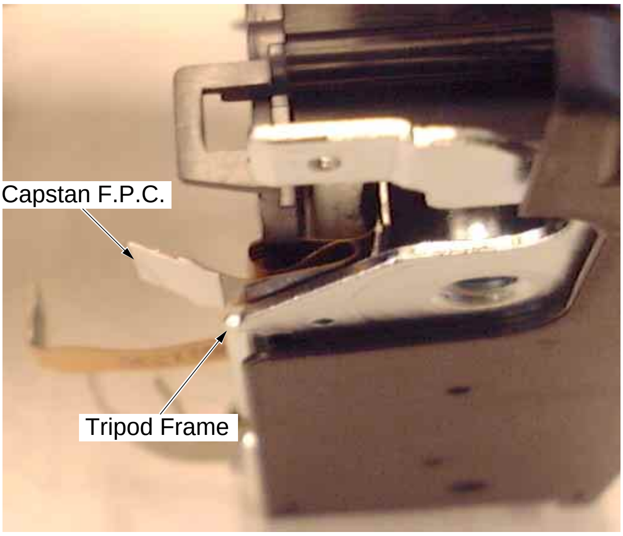


Fig. D7

9. **Replacement of Lamp**
   When replacing the Lamp, refer to "HOW TO REPLACE THE LAMP (LSLL0028) OF BUILT-IN LIGHT" in SERVICE NOTES.

DANGER:
Use only replacement Lamp (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire.
Handle new Lamp with cloth or tissue as skin oils decrease Lamp life.
Remove Light Protector and allow Lamp to cool before replacing to avoid possible burn hazard.

10. **Removal of CCD C.B.A., Filter Rubber, Optical Filter, Infrared Cut Filter (For model without Magic VU)**
    CAUTION:
    1) When removing the CCD C.B.A., take care that the Optical Filter and Infrared Cut Filter **(For model without Magic VU)** does not fall out.
    2) Take extreme caution when removing the CCD C.B.A. because it is easily damaged by static electricity. Use a Wrist Strap while removing and installing.
    3) Do not touch the CCD window surface when handling.

    Installation of CCD C.B.A., Filter Rubber, Optical Filter, Infrared Cut Filter (For model without Magic VU)
    Install in order shown below.
    1) **(For model without Magic VU)**
       Install the Infrared Cut Filter in the Lens Unit correctly.
       Note: Make sure that no dust gets on the Infrared Cut Filter and in the Lens Unit. Clean it with lens cleaning paper dampened with lens cleaner if necessary.
    2) Install the Optical Filter correctly.
       Note: Make sure that no dust gets on the Optical Filter and in the Lens Unit. Clean it with lens cleaning paper dampened with lens cleaner if necessary.
    3) Install the Filter Rubber on the Optical Filter correctly as shown below.
       Note: Make sure that no dust gets on the Filter Rubber.
    4) Install the CCD C.B.A. to the Lens Unit. Then, secure the 2 Screws (422) while keeping the CCD C.B.A. pressed toward the upper right corner.
       Note: Do not touch the Lens Surface. Clean their surface with lens cleaning paper dampened with lens cleaner if necessary.

11. **Installation of Zoom Motor Unit**
    Install the Zoom Motor Unit so that the Shaft of the Zoom Motor Unit is set in the Holder. Then, tighten the 3 Screws (507).

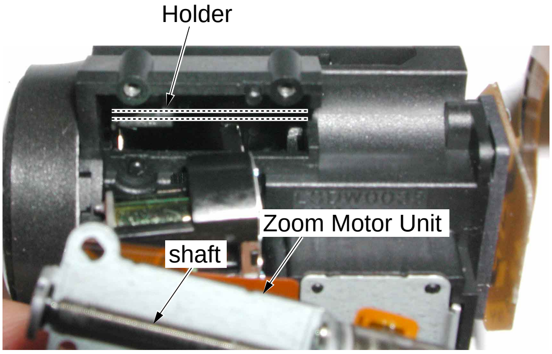


Fig. D8

12. Installation of EVF Unit

1) Secure the 3 Locking Tabs (L-1) on the Top Case Unit.

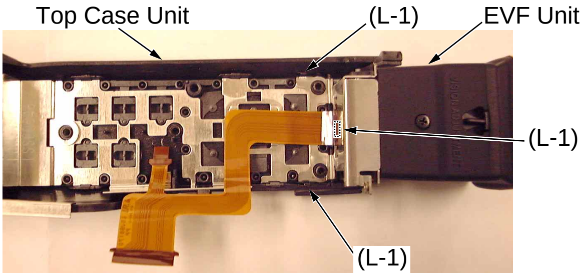

Top Case Unit
(L-1)
EVF Unit
(L-1)
(L-1)

Fig. D9

13. Removal of EVF Case Ass'y

Work carefully so as not to damage the Top F.P.C. in the EVF Case Ass'y.

1) Remove the Screw (402).
2) Pull off the EVF Case Ass'y with grasping the Eye Cap carefully.

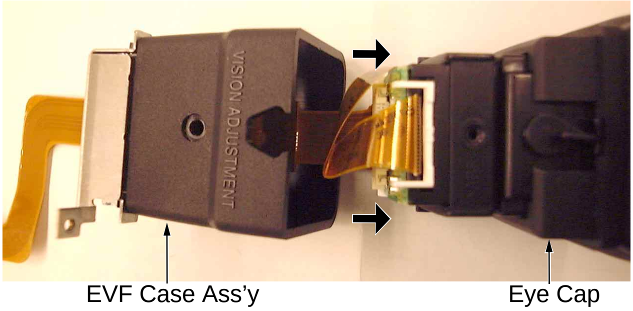

VISION ADJUSTMENT
EVF Case Ass'y
Eye Cap

Fig. D10

Installation of EVF Case Ass'y

1) Confirm that the Top F.P.C. is set to ribs in the EVF Case.
2) Connect the Top F.P.C. to the Connector FP951 on the EVF Back Light C.B.A.
3) Install into the EVF Case Ass'y with bending the Top F.P.C. as shown.

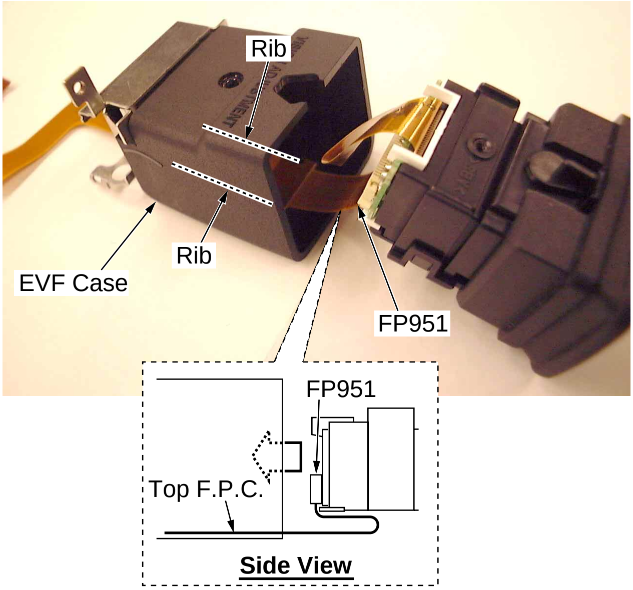

Rib
Rib
EVF Case
FP951
FP951
Top F.P.C.
Side View

Fig. D11

14. Installation of Lens Holder, Eye Sight Lever A, Eye Sight Lever B

1) Install the Eye Sight Levers A and B into the EVF Protect B taking care that Portion "a" of the Eye Sight Lever A is installed in the correct direction as shown. Then, tighten the Screw (402).
2) Install the Lens Holder so that the boss of the Lens Holder is set to Portion "a" of the Eye Sight Lever A.

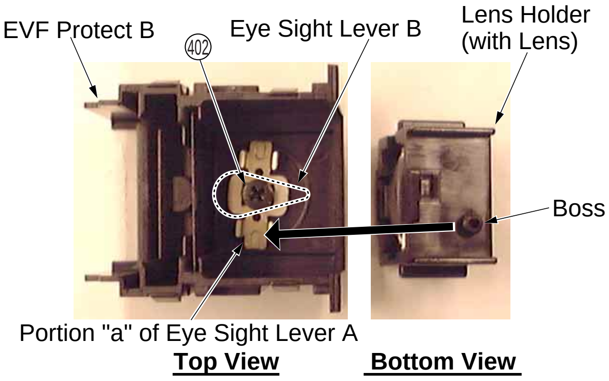

EVF Protect B
402
Eye Sight Lever B
Lens Holder
(with Lens)
Boss
Portion "a" of Eye Sight Lever A
Top View
Bottom View

Fig. D12

15. Installation of LCD Case Ass'y

Work carefully so as not to damage the F.P.C.

1) Put the LCD F.P.C. through the slot of the Side Case R.
2) To tighten 2 Screws (404, 509), close the LCD Case Ass'y, or turn it to the right or left.
3) Confirm that the LCD F.P.C. is set with 2 Bosses on the Side Case R as shown.

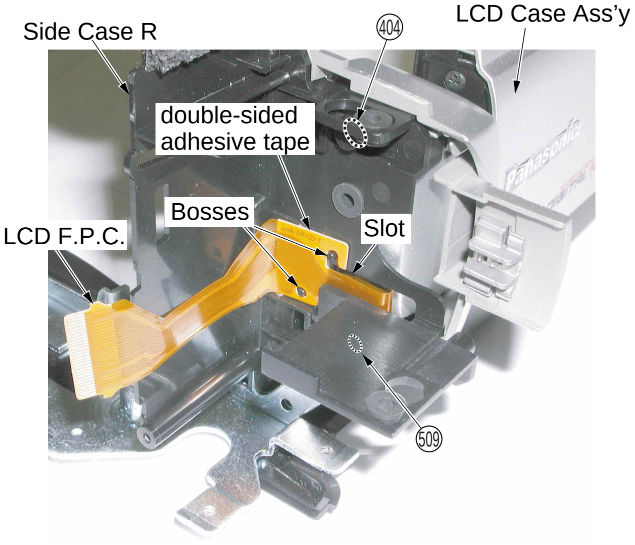
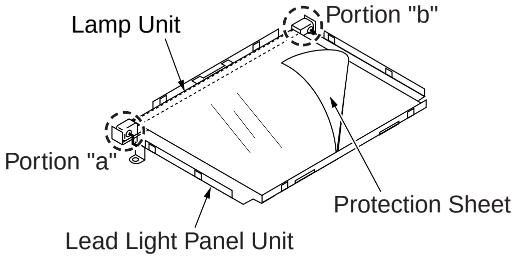

Side Case R
404
LCD Case Ass'y
double-sided
adhesive tape
Bosses
Slot
LCD F.P.C.
509

Fig. D13

16. **Removal of LCD Case B**
When removing the LCD Case B, pull the LCD Unit out of the slots while raising the lower portion of the LCD Unit.

17. **(For model with 2.5 inch LCD Monitor)**
Installation of LCD Panel Unit, Lead Light Panel Unit

a. When replacing the Lead Light Panel Unit, make sure to remove the Protection Sheet as shown below.
b. Use extreme care when handling the Lead Light Panel Unit and the LCD Panel Unit to avoid damage, dust, and spots (especially fingerprints, etc.).
The use of clean cotton gloves is highly recommended.
c. Be careful not to apply any pressure to Portion "a" or "b" of the Lamp Unit as shown below.


Lamp Unit
Portion "b"
Portion "a"
Protection Sheet
Lead Light Panel Unit

d. After replacing the Lead Light Panel Unit, confirm that the Terminal of the Lamp Unit is soldered correctly as shown below.

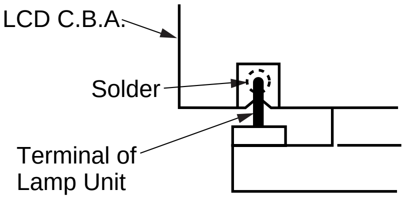
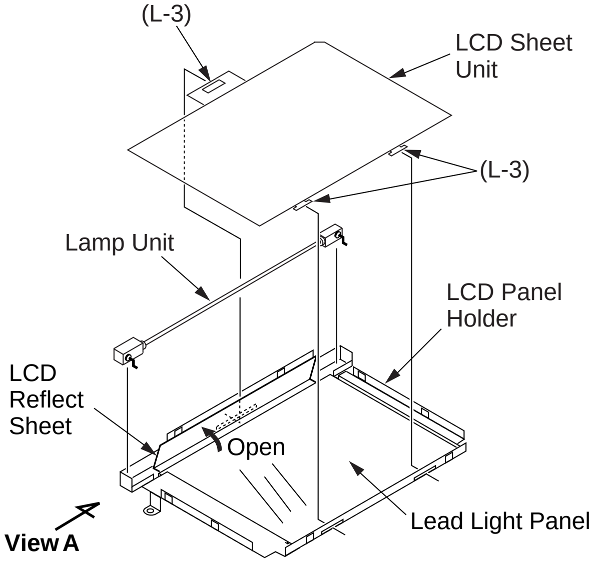

LCD C.B.A.
Solder
Terminal of
Lamp Unit

Fig. D14

18. **(For model with 2.5 inch LCD Monitor)**
Installation of Lamp Unit


(L-3)
LCD Sheet Unit
(L-3)
Lamp Unit
LCD Panel Holder
LCD Reflect Sheet
Open
Lead Light Panel
View A

a. When installing the Lamp Unit, confirm that the Lamp Unit is positioned as shown below.
b. Use extreme caution when handling the Lead Light Panel and the LCD Sheet Unit to avoid damage, dust, and spots (especially fingerprints, etc.).

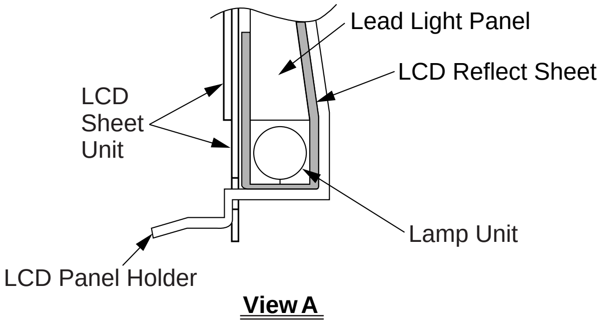

Lead Light Panel
LCD Reflect Sheet
LCD Sheet Unit
Lamp Unit
LCD Panel Holder
View A

Fig. D15

19. **(For model with Magic VU)**
Installation of Magic VU Knob Holder, Magic VU Knob
Install them into the Front Cover, verifying that the direction of the Magic VU Knob Holder and the Magic VU Knob are correct.

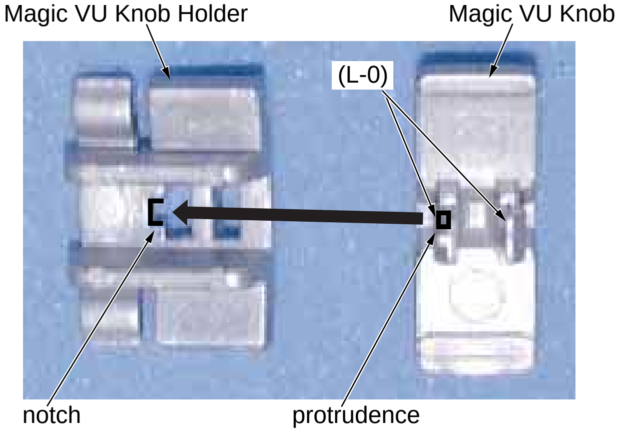

Magic VU Knob Holder
Magic VU Knob
(L-0)
notch
protrudence

Fig. D16

20. (For model with 3.5 inch LCD Monitor) Installation of Lamp

Use extreme caution when handling the Lead Light Panel Unit, the LCD Diffusion Sheet and the LCD Panel to avoid damage from dust, and spots (especially fingerprints, etc). The use of clean cotton gloves is highly recommended.

1) Install the Lamp into the LCD Reflect Frame.
2) Install the Lead Light Panel with 2 Locking Tabs (L-5).
3) Install the LCD Diffusion Sheet on the Lead Light Panel with 2 Locking Tabs (L-4). Be careful of the direction of the LCD Diffusion Sheet.

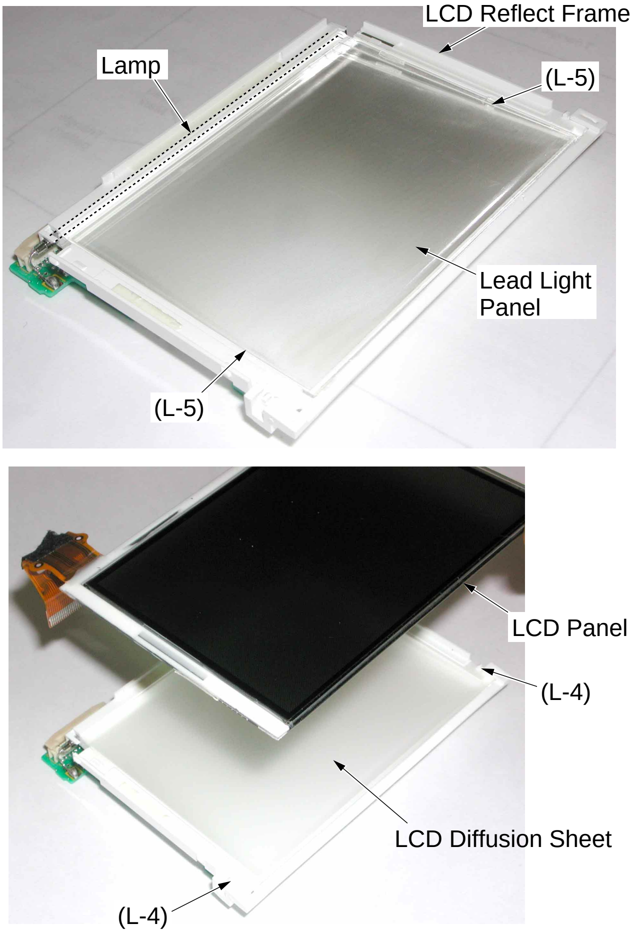

LCD Reflect Frame
Lamp
(L-5)
Lead Light Panel
(L-5)
LCD Panel
(L-4)
LCD Diffusion Sheet
(L-4)

Fig. D17-1

4) After installing the LCD Panel, the LCD Earth Plate Unit and the LCD C.B.A., solder both side of the terminal of the Lamp no more than 330 °C for less than 3 seconds as shown.

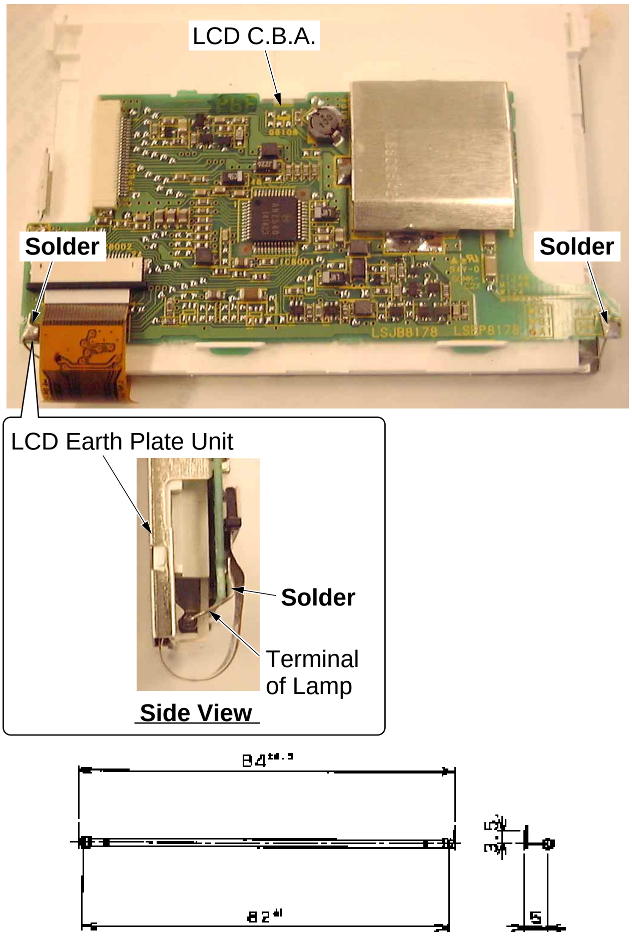

LCD C.B.A.
Solder
Solder
LCD Earth Plate Unit
Solder
Terminal of Lamp
Side View
84±0.3
82±1
5

Fig. D17-2

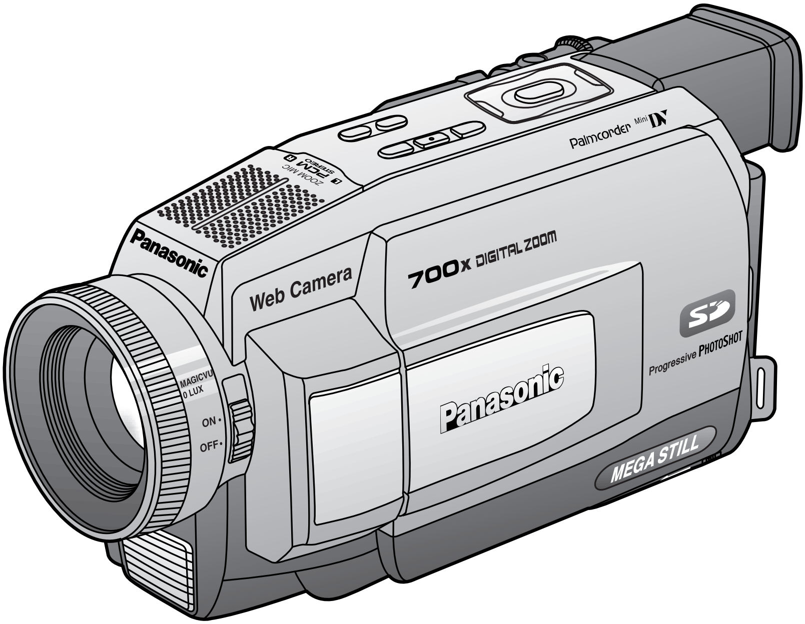
Digital Palmcorder
MultiCam Camcorder

Panasonic

Digital Video Camcorder

Operating Instructions

Models No. PV-DV202
PV-DV402


Panasonic
ZOOM MIC
STEREO PCM
Palmcorder Mini DV
700x DIGITAL ZOOM
Web Camera
SD
Progressive PHOTOSHOT
MAGICVU 0 LUX
ON
OFF
Panasonic
MEGA STILL

[PV-DV402 shown]

MultiMediaCard SD Mini DV

Before attempting to connect, operate or adjust this product, please read these instructions thoroughly.

LSQT0597A

Things You Should Know

Thank you for choosing Panasonic!

You have purchased one of the most sophisticated and reliable products on the market today. Used properly, we're sure it will bring you and your family years of enjoyment. Please take time to fill in the information below. The serial number is on the tag located on the underside of your Palmcorder. Be sure to **retain this manual** as your convenient Palmcorder information source.

Date of Purchase ____________________

Dealer Purchased From ____________________

Dealer Address ____________________

Dealer Phone No. ____________________

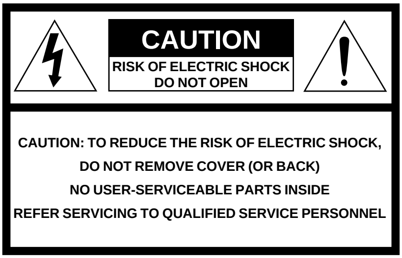
Model No. ____________________

Serial No. ____________________

Safety Precautions

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS EQUIPMENT TO RAIN OR MOISTURE.

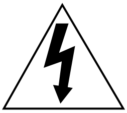
Your Mini DV Palmcorder is designed to record and play back in Standard Play (SP) mode and Long (LP) mode.
It is recommended that only cassette tapes that have been tested and inspected for use in VCR machines with the Mini DV mark be used.



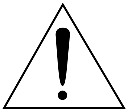
CAUTION

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK,
DO NOT REMOVE COVER (OR BACK)
NO USER-SERVICEABLE PARTS INSIDE
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



This symbol warns the user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any inside part of this unit.



This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

The above markings are located on the appliance bottom cover.

- For U.S.A. only -

Declaration of Conformity

Model Number : **PV-DV202/PV-DV402**
Trade Name : Panasonic
Responsibility Party : Matsushita Electric Corporation of America
Address : One Panasonic Way Secaucus New Jersey 07094
Telephone Number : 1-800-211-PANA(7262)

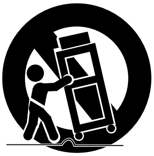
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when operated in a residential environment.
If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment off and on, use the equipment in another location and/or utilize an electrical outlet different from that used by the receiver.
If necessary, consult the dealer or an experienced radio/TV technician for help. You may find the booklet, 'Something About Interference' available from FCC local regional offices helpful.

FCC Warning: To assure continued FCC compliance, use only the provided shielded interface cable when connecting digital video camcorder to computer in accordance with instruction herein. Also, any unauthorized changes or modifications to this equipment would void the user's authority to operate.

Important Safeguards

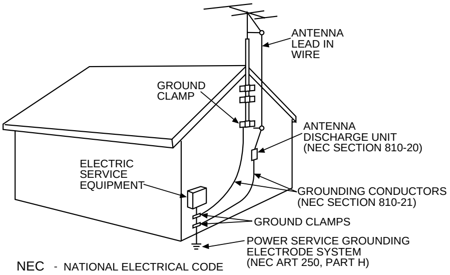
1. Read Instructions — All the safety and operating instructions should be read before the unit is operated.
2. Retain Instructions — The safety and operating instructions should be retained for future reference.
3. Heed Warnings — All warnings on the unit and in the operating instructions should be adhered to.
4. Follow Instructions — All operating and maintenance instructions should be followed.
5. Cleaning — Unplug this video unit from the wall outlet before cleaning. Do not use liquid or aerosol cleaners. Use a dry cloth for cleaning.
6. Attachments — Do not use attachments not recommended by the video product manufacturer as they may be hazardous.
7. Water and Moisture — Do not use this video unit near water — for example near a bath tub, wash bowl, kitchen sink, or laundry tub, in a wet basement, or near a swimming pool, and the like.
8. Accessories — Do not place this video unit on an unstable cart, stand, tripod, bracket, or table. The video unit may fall, causing serious injury to a child or adult, and serious damage to the unit. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the video unit. Any mounting of the unit should follow the manufacturer's instructions and should use a mounting accessory recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.



9. Ventilation — Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the video unit and to protect it from overheating. These openings must not be blocked or covered. Never place the video unit on a bed, sofa, rug, or other similar surface, or near or over a radiator or heat register. This video unit should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
10. Power Sources — This video unit should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your appliance dealer or local power company. For video units intended to be operated from battery power, or other sources, refer to the operating instructions.
11. Grounding or Polarization — This video unit may be equipped with either a polarized 2-wire AC (Alternating Current) line plug (a plug having one blade wider than the other) or 3-wire grounding type plug, a plug having a third (grounding) pin.

    The 2-wire polarized plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug still fails to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.

    The 3-wire grounding type plug will fit into a grounding type power outlet. This is a safety feature. If you are unable to insert the plug into the outlet, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the grounding type plug.
12. Power-Cord Protection — Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords of plugs, convenience receptacles, and the point where they exit from the unit.
13. Outdoor Antenna Grounding — If an outside antenna or cable system is connected to the video unit, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Part 1 of the Canadian Electrical Code, in USA Section 810 of the National Electrical Code, provides information with respect to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.


ANTENNA LEAD IN WIRE
GROUND CLAMP
ANTENNA DISCHARGE UNIT (NEC SECTION 810-20)
ELECTRIC SERVICE EQUIPMENT
GROUNDING CONDUCTORS (NEC SECTION 810-21)
GROUND CLAMPS
POWER SERVICE GROUNDING ELECTRODE SYSTEM (NEC ART 250, PART H)
NEC - NATIONAL ELECTRICAL CODE

14. Lightning — For added protection of this video unit receiver during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the video unit due to lightning and power-line surges.

Important Safeguards

15. Power Lines — An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
16. Overloading — Do not overload wall outlets and extension cords as this can result in a risk of fire or electric shock.
17. Objects and Liquids — Never push objects of any kind into this video unit through openings as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind onto the video unit.
18. Servicing — Do not attempt to service this video unit yourself as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
19. Damage Requiring Service — Unplug this video unit from the wall outlet and refer servicing to qualified service personnel under the following conditions:
    a. When the power-supply cord or plug is damaged.
    b. If any liquid has been spilled into, or objects have fallen onto, the video unit.
    c. If the video unit has been exposed to rain or water.
    d. If the video unit does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions, as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the video unit to its normal operation.
    e. If the video unit has been dropped or the cabinet has been damaged.
    f. When the video unit exhibits a distinct change in performance — this indicates a need for service.
20. Replacement Parts — When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock or other hazards.
21. Safety Check— Upon completion of any service or repairs to this video unit, ask the service technician to perform safety checks to determine that the video unit is in safe operating order.

Precautions

USE & LOCATION

- **TO AVOID SHOCK HAZARD ...** Your Palmcorder and power supply should not be exposed to rain or moisture. Do not connect the power supply or operate your Palmcorder if it gets wet. Your Palmcorder has been designed for outdoor use, however, it is not designed to sustain direct exposure to water, rain, sleet, snow, sand, dust, or direct splashing from a pool or even a cup of coffee. This action could permanently damage the internal parts of your Palmcorder. Do not attempt to disassemble this unit. There are no user serviceable parts inside. Unplug your Palmcorder from the power supply before cleaning.
- **DO NOT AIM YOUR PALMCORDER AT THE SUN OR OTHER BRIGHT OBJECTS**
- **DO NOT LEAVE THE PALMCORDER WITH THE EVF AIMED DIRECTLY AT THE SUN AS THIS MAY CAUSE DAMAGE TO THE INTERNAL PARTS OF THE EVF**
- **DO NOT EXPOSE YOUR PALMCORDER TO EXTENDED HIGH TEMPERATURE ...** Such as, direct sunlight, inside a closed car, next to a heater, etc... This action could permanently damage the internal parts of your Palmcorder.
- **AVOID SUDDEN CHANGES IN TEMPERATURE ...** If the unit is suddenly moved from a cold place to a warm place, moisture may form on the tape and inside the unit.
- **DO NOT LEAVE YOUR PALMCORDER OR THE POWER SUPPLY TURNED ON WHEN NOT IN USE.**
- **STORAGE OF YOUR PALMCORDER ...** Store and handle your Palmcorder in a manner that will not subject it to unnecessary movement (avoid shaking and striking). Your Palmcorder contains a sensitive pick-up device which could be damaged by improper handling or storage.

CARE

- **TO CLEAN YOUR PALMCORDER ...** Do not use strong or abrasive detergents when cleaning your Palmcorder body.
- **TO PROTECT THE LENS ...** Do not touch the surface of the lens with your hand. Use a commercial Palmcorder lens solution and lens paper when cleaning the lens. Improper cleaning can scratch the lens coating.
- **TO PROTECT THE FINISH OF YOUR PALMCORDER ...** Before handling your Palmcorder, make sure your hands and face are free from any chemical products, such as suntan lotion, as it may damage the finish.

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Before Using

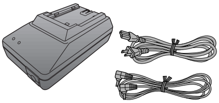
This Operating Instructions book is designed for use with models **PV-DV202** and **PV-DV402**. The **PV-DV402** is the model used for illustrative purposes.
Features may vary, so please read carefully.

Differences between models

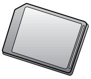
Model Number	PV-DV202	PV-DV402
LCD Monitor	63.5 mm (2.5 inch) Liquid Crystal Display	88.9 mm (3.5 inch) Liquid Crystal Display
MagicVu IR Filter (0Lux)	NO	YES
MIC IN EXTERNAL	NO	YES

Unpack your Palmcorder

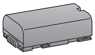
1 pc. AC Adaptor (PV-DAC11) with AC Cable and DC Cable



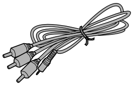
1 pc. 8 MB Memory Card (RP-SD008BMKO)



1 pc. Battery Pack (CGR-D08/ CGR-D08R)

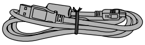


1 pc. A/V Cable (LSJA0280)

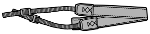


1 pc. Lens Cap (LSYF0518) with Lens Cap Strap (LSGQ0066)

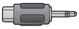
1 pc. USB Cable (K1HA05CD0001)



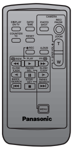
1 pc. Shoulder Strap (LSFC0016)



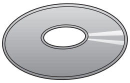
1 pc. Audio Adaptor (LSJP0829)



1 pc. IR Remote Control (LSSQ0294) with Battery (CR2025)



1 pc. CD-ROM of Driver Software for Windows 98SE/Me/2000/XP and Macintosh; USB Device Driver for Windows 98SE/Me/2000/XP; PHOTOVU/MPEG4 Movie Messenger System for Windows 98SE/Me/2000/XP; Built-in SD Drive for Macintosh; ArcSoft Software for Windows 95/98SE/Me/2000/XP and Macintosh (LSFT0492)



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i.LINK is a trademark.

PHOTOVU/MPEG4 Movie Messenger System is a registered trademark.

IBM is a registered trademark of IBM Company.

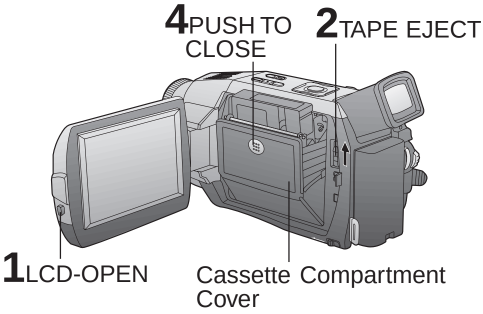
Record Speed/Playback Time

Use only those tapes having the Mini DV logo indicating the 6.35 mm digital standard.

Cassette type	Record Speed/ Playback time	
	SP	LP
AY-DVM30EA	30 minutes	45 minutes
AY-DVM60EA	60 minutes	90 minutes
AY-DVM80EA	80 minutes	120 minutes

Easy Cassette Eject/Insertion

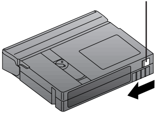
- If the Palmcorder is connected to a power source, the cassette can be inserted and ejected without turning the Palmcorder on.



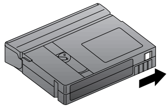
Erase Protection

Cassettes have a sliding record tab to ensure recordings are not accidentally erased.

1 **To prevent accidental erasure:**
Slide the tab to the left (open).



2 **To record again:**
Slide the tab to the right (close).



Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)

1 **Press LCD-OPEN** to unlock the LCD monitor, and **swing it fully open.**

2 **Slide TAPE EJECT** to open the Cassette Compartment Cover.

3 **Insert a cassette** record tab up, window side facing out.

4 **Press PUSH TO CLOSE** to close the Cassette Compartment Cover.

• To remove the cassette...

Slide TAPE EJECT to open the Cassette Compartment Cover and pull the cassette tape straight out.

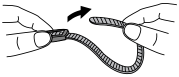
Note

- When inserting the cassette, make sure it is facing the right direction and then push it in completely.

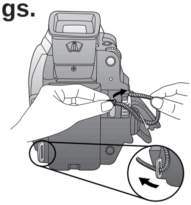
Before Using

Attaching the Shoulder Strap

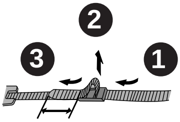
1 **Undo the two strap ends** from their buckles.



2 **Thread the strap ends through the Strap Attachment Rings.**



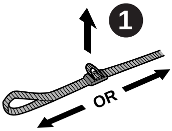
3 **Reinsert the strap ends through their buckles.**
- Make sure the straps are not twisted.



Adjust the Length

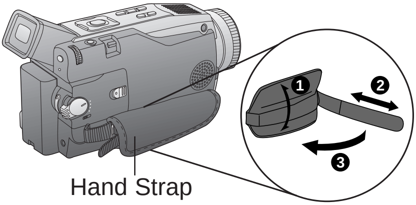
1 **Loosen the strap** from the Buckle and create a loop.

2 **Pull the strap firmly through the Buckle** to shorten or lengthen the strap.



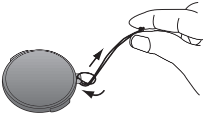
Hand Strap

Adjust the length of the Hand Strap to the size of your hand as illustrated.

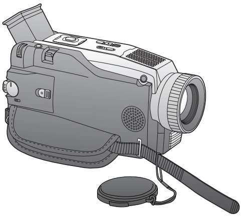


Lens Cap

Attaching the Lens Cap Strap:
Thread the Lens Cap Strap through the Strap Attachment Ring as shown.

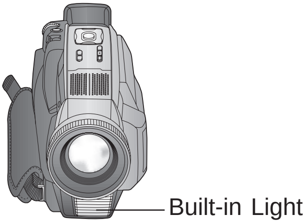


Attaching the Lens Cap Cord to the Hand Strap:
Remove the Hand Strap from the front clasp and thread the Strap through the loop in the Lens Cap Cord.
Reattach the Hand Strap.



Using the Built-in Light

To brighten the natural colors in a scene.



Note

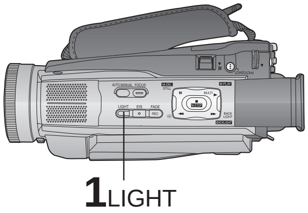
- Using Light reduces battery time.
- Provide adequate ventilation if using Light in a hot environment for a long time.
- Set LIGHT to OFF when not in use.
- When replacing the bulb, see page 94.

Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to CAMERA or M-CARD.

1 **Hold down LIGHT for more than 0.7 seconds to turn ON or OFF.**

- “💡” will appear on the screen.

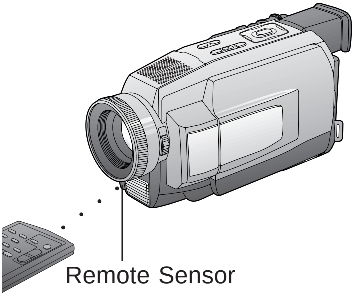


Caution

This light becomes hot during operation. Make sure nothing covers the light during operation.

Remote Control

You can operate the major functions of your Palmcorder from up to approximately 5 m (16 feet) away (indoors). Aim the IR Remote Control toward the front of the Palmcorder and press the desired buttons (Remote Sensor is located under the lens).



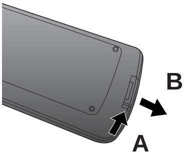
To operate Camera functions:
Set POWER to CAMERA.

To operate VCR functions:
Set POWER to VCR.

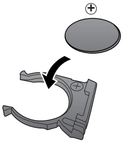
Controlled Functions

- Rec/Pause (p. 18)
- Tele (Zoom) (p. 21)
- Wide (Zoom) (p. 21)
- Date/Time (p. 105)
- Reset (p. 45)
- PhotoShot (p. 20)
- Display On TV (p. 39)
- Counter/Time Code (p. 106)
- Audio Dubbing (p. 44)
- Record (p. 47)
- Menu (pp. 17, 45)
- Play (p. 32)
- FF/Search (p. 34)
- REW/Search (p. 34)
- Pause/Select (pp. 16, 17, 36, 47)
- Stop/Set (pp. 16, 17, 32, 47)
- Slow/Frame Advance (Forward) (pp. 35, 36)
- Slow/Frame Advance (Backward) (pp. 35, 36)
- Index Search (Forward) (pp. 36, 37)
- Index Search (Backward) (pp. 36, 37)
- Speaker Volume (p. 33)

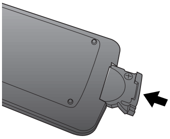
Replace the Battery



1 While pressing the tab in the direction of the arrow (**A**) with your fingernail, pull out the Battery Tray (**B**).



2 **Insert the battery** into the Battery Tray with the ⊕ mark facing up.
Do not reverse the polarity.

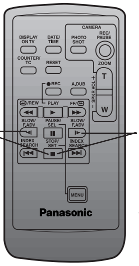


3 **Insert the Battery Tray.**

Replace battery with Panasonic PART NO. VSBW0004 (CR2025) only. Use of another battery may present a risk of fire or explosion.
Caution: battery may explode if mistreated. Dispose of used battery properly. Keep away from children. Do not recharge, disassemble or dispose of in a fire.

Remote Controlling Two Palmcorders

You can control any two Panasonic Palmcorders with one Remote control. In order for the remote to distinguish between the two units, it is necessary to set one of the Palmcorders to VCR 2. On the remote, press VCR 1 or VCR 2 to control the desired Palmcorder.

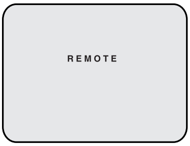


For VCR 2 : Press these buttons at the same time.

For VCR 1 : Press these buttons at the same time.

Note

- When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), “CHECK REMOTE MODE (REMOTE)” will appear.



REMOTE

1 **Set POWER to VCR or CAMERA.**
- The POWER Lamp lights red.
- Be sure POWER is fully turned to VCR or CAMERA position.

2 **Press MENU** to display the VCR or CAMERA mode menu screen.

3 **Rotate JOG KEY** to select **SET-UP** in the CAMERA mode menu screen or **PLAY MODE** in the VCR mode menu screen, then **press JOG KEY** to display the CAMERA SET-UP or VCR PLAY MODE menu screen.

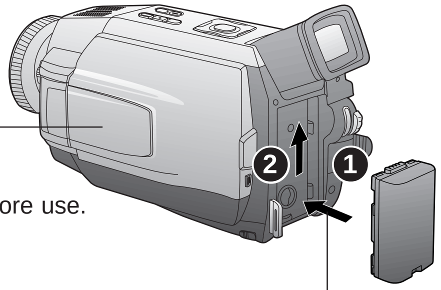
4 **Rotate JOG KEY** to select **REMOTE**, and then press JOG KEY to select VCR 2 (Menu OSD: pp. 102, 103). Leave the other Palmcorder set to VCR1.

5 **Set the Remote Control to VCR 1 or VCR 2** to correspond with the Palmcorder you wish to control. (See above left.)

- After replacing the Remote Control Battery, the remote will default to VCR 1.

Insert the Battery Pack

Before you begin
- Charge the Battery. (p. 14)



Protection Film

Note
- Remove the Protection Film before use.

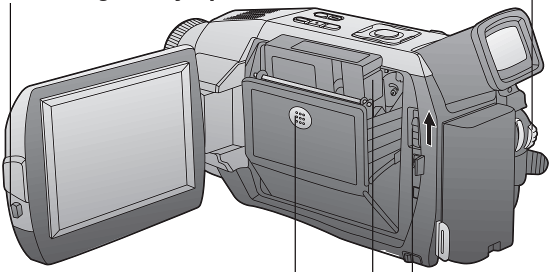
1 **Insert the Battery Pack** and slide it up until it locks with a click.

Insert Cassette

These Palmcorders are equipped with the Easy Cassette Eject System so it is easy to insert or remove tapes, even when on a tripod. (p. 7)

1 **Press LCD-OPEN** to unlock the LCD monitor, and **swing it fully open.**

2 **Set POWER to VCR or CAMERA.**



3 **Slide TAPE EJECT** to open the Cassette Compartment Cover.

4 **Insert a cassette** record tab up, window side facing out.
- Make sure the record tab is closed. (p. 7)

5 **Press PUSH TO CLOSE mark** to close the Cassette Compartment Cover.

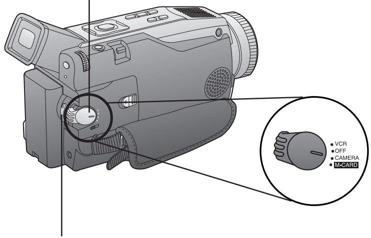
Quick Guide

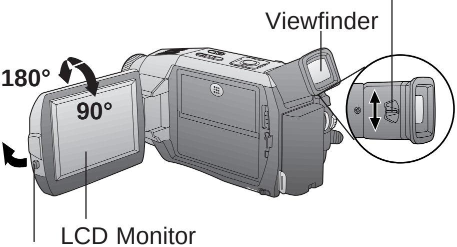
Camera Recording

When the LCD monitor is fully open, the Viewfinder automatically turns OFF.

1 **Set POWER to CAMERA.**

2 **Adjust the Vision Adjustment Control to your eyesight.**


VCR
OFF
CAMERA
M-CARD


Viewfinder
180°
90°
LCD Monitor

4 **Press REC/PAUSE** to start recording. **Press REC/PAUSE** again to pause recording.

3 **Press LCD-OPEN** to unlock the LCD monitor. **Swing it fully open and adjust the angle.**

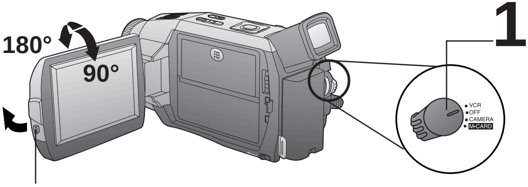
To Watch Playback in the LCD (Liquid Crystal Display)

When the LCD monitor is fully open, the Viewfinder automatically turns OFF.

Before you begin

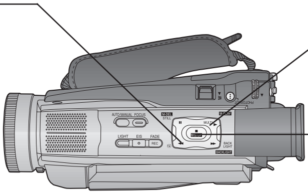
- Charge the Battery. (p. 14)

1 **Set POWER to VCR.**


180°
90°
VCR
OFF
CAMERA
M-CARD

2 **Press LCD-OPEN** to unlock the LCD monitor. **Swing it fully open and adjust the angle.**

3 **Press ◀◀ (REW)** to rewind the tape.



4 **Press ▶ (PLAY)** to start playback.

5 **Press ■ (STOP)** to stop playback.

Insert Memory Card*

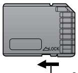
Before you begin
- Charge the Battery. (p. 14)

*Memory Card: MultiMediaCard or SD Memory Card (p. 94)
- Be sure to insert the Memory Card before using the Card PhotoShot. (p. 48)

Below is a list of memory cards which can be used in this Palmcorder.

Memory Card	Capacity
SD Memory Card (RP-SD008BMKO) (supplied)	8 MB
MultiMediaCard (SanDisk brand)	8 MB, 16 MB
SD Memory Card (optional) (p. 93)	16 MB, 32 MB, 64 MB

SD Memory Card write protection switch

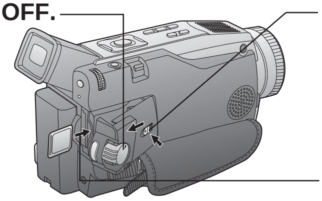


A write protection switch is located on the SD Memory Card. Sliding the switch to the “LOCK” position prevents writing on or formatting the card.

Write protection Switch

1 **Set POWER to OFF.**

2 **Slide DOOR OPEN** to open M-CARD door.

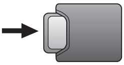


3 **Insert the Memory Card and hold in place until you hear a click.**

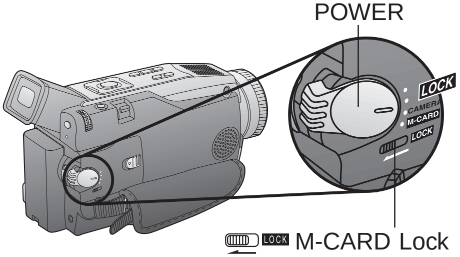
4 **Close the M-CARD Door.**

To remove the Memory Card...

Press here to eject the card.

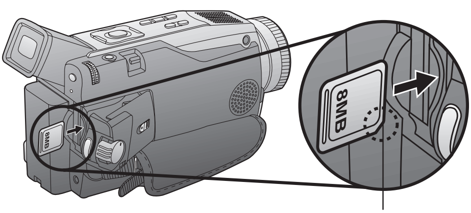


About the M-CARD Lock Switch



Note
- By sliding M-CARD Lock to LOCK, you can prevent POWER from accidentally entering the M-CARD position when changing POWER to CAMERA.

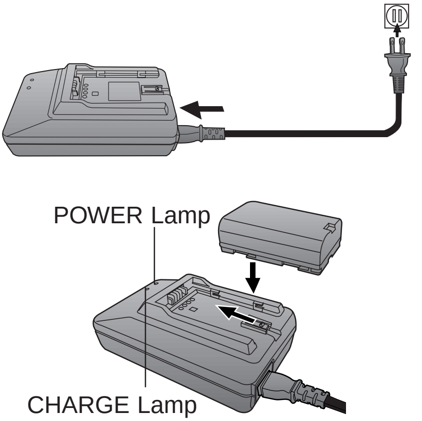
When inserting the Memory Card



Note
- When inserting the Memory Card, insert with the cropped corner down as shown in the illustration above.

Supplying Power

Charge the Battery Pack on the AC Adaptor



1 **Connect and plug in the Power Cord** as shown.
- POWER Lamp will light.
- Remove the DC Cable, if attached, from the adaptor.

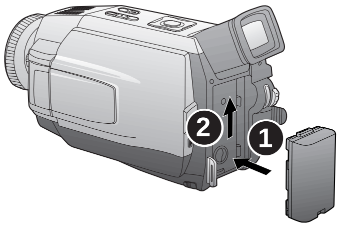
2 **Attach the Battery as shown** to charge.
- CHARGE Lamp lights up. It goes out when charging is complete (approx. 1 hour). Expect approx. 1 hour 30 minutes of operation (EVF usage) when fully charged.

3 **Remove the Battery.**
Slide the Battery out and then lift up.

Note

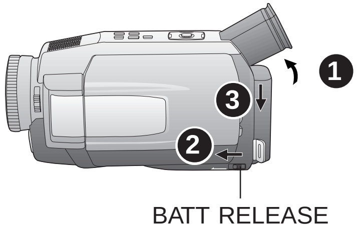
About the Flashing of the CHARGE Lamp
- Charge the Battery within an ambient temperature range of 10 °C (50 °F) and 30 °C (86 °F).
- If charging is done in extreme low or high temperatures, Battery charge time increases.
  CHARGE Lamp flashes when...
  - The Battery is being charged, but charging is taking longer than normal.
  - Charging is not possible. Remove the Battery once, wait a short time, then re-attach it for charging.

Insert the Battery Pack



1 **Insert the Battery Pack** and slide it up until it locks with a click.

Remove the Battery Pack



1 **Tilt Viewfinder upward.**

2 **Remove the Battery Pack** and slide the Battery downward while sliding the **BATT RELEASE**.

Supplying Power

Battery Care

Caution:

- Charge only with specified charger.
- Charge the Battery within an ambient temperature range of 10 °C (50 °F) and 30 °C (86 °F).
- The Battery may be warm after charging or just after use. This is normal.
- Do not use an insufficiently charged or worn out Battery.
- If charging is done in extreme low or high temperatures, Battery charge time increases.

Safety precautions:

- Do not place the Battery near, or dispose of in fire.
- Do not directly connect (short circuit) the positive (+) and negative (–) terminals.
- Never attempt to disassemble or reassemble the Battery.

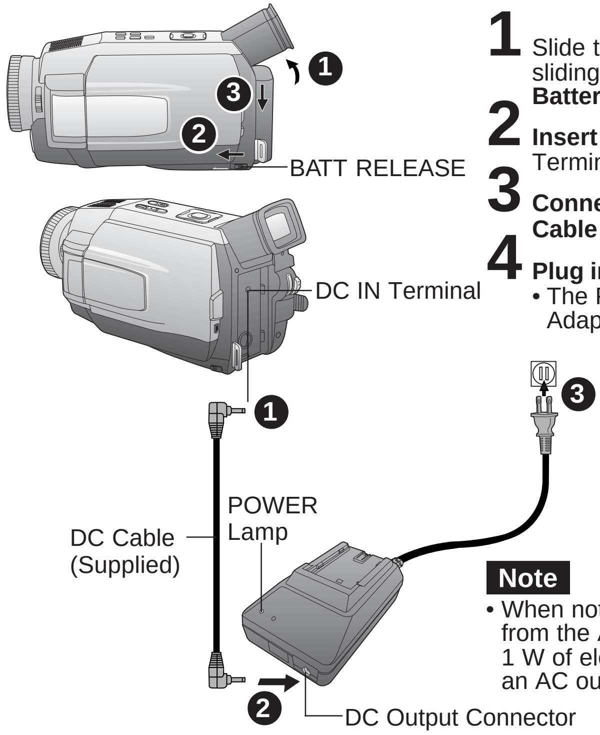
To avoid damage to the Battery:

- Do not drop or jar the Battery.
- Use the Battery with specified models only.
- If the Battery is used in extremely high temperatures, a safety device will automatically prevent operation.

To insure longer battery life:

- **While not in use, remove Battery from the Palmcorder and AC Adaptor and store in a cool, dark, dry place.** If you leave the Battery in the Palmcorder or on the AC Adaptor, the Battery will no longer be rechargeable.
- Keep the Battery terminals clean.

Use AC Adaptor



1 Slide the Battery downward while sliding BATT RELEASE to **remove the Battery Pack**. (p. 14)

2 **Insert the DC Cable** into the DC IN Terminal.

3 **Connect the other end of the DC Cable** to the AC Adaptor as shown.

4 **Plug in the AC Adaptor.**
- The POWER Lamp on the AC Adaptor lights up.

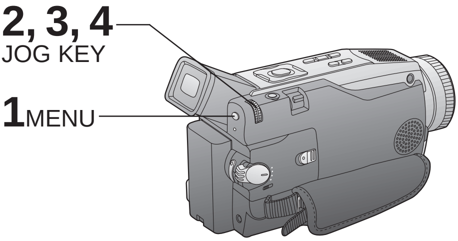
Note

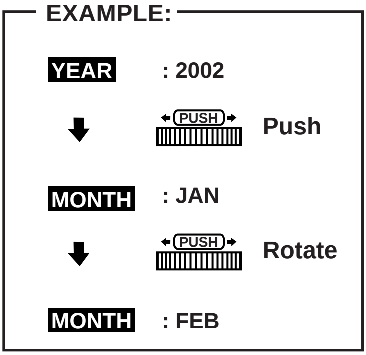
- When not in use, unplug the AC Adaptor from the AC outlet. (AC Adaptor consumes 1 W of electric power when plugged into an AC outlet even when not in use.)

Setting the Clock

Set the Date and Time

The date and time is calculated, including leap year, up to DEC 31 2089.





Note

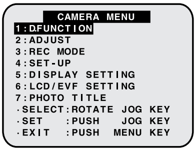
- To make corrections, Press JOG KEY repeatedly to move back to an item and correct.
- A built-in Battery maintains clock operation. If the Palmcorder is not connected to a power source for a few months, the built-in battery may discharge and "CLOCK BATTERY" indication appears. (p. 99)

Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to CAMERA or VCR.

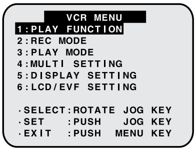
1 **Press MENU** to display the Camera or VCR mode menu screen. (p. 17)

[CAMERA MENU]



```
   CAMERA  MENU
1:D.FUNCTION
2:ADJUST
3:REC MODE
4:SET-UP
5:DISPLAY SETTING
6:LCD/EVF SETTING
7:PHOTO TITLE
·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

[VCR MENU]

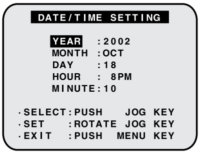


```
   VCR  MENU
1:PLAY FUNCTION
2:REC MODE
3:PLAY MODE
4:MULTI SETTING
5:DISPLAY SETTING
6:LCD/EVF SETTING

·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

2 **Rotate JOG KEY** to select **DISPLAY SETTING**, and then **press JOG KEY** to display the DISPLAY SETTING menu screen.

3 **Rotate JOG KEY** to select **CLOCK-SET**, and then **press JOG KEY** to set to ON. (Menu OSD: pp. 102, 104)
- The DATE/TIME SETTING menu is displayed.

4 **Rotate JOG KEY** to select YEAR, then **press JOG KEY** to fix and move to the next item. Likewise, set the month, day, hour, and minutes.



```
  DATE/TIME SETTING

   YEAR   :2002
   MONTH  :OCT
   DAY    :18
   HOUR   :  8PM
   MINUTE:10

·SELECT:PUSH     JOG KEY
·SET   :ROTATE  JOG KEY
·EXIT  :PUSH   MENU KEY
```

When DATE/TIME setting is completed, press MENU three times to start the clock and exit.

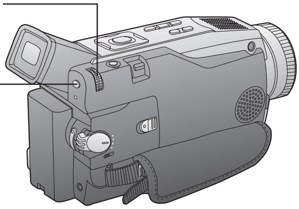
Using the Palmcorder Menu

The Palmcorder features three menu displays: one for CAMERA mode (recording), one for M-CARD (Memory Card Photo Mode) and one for VCR mode (Playback). (pp. 101~104)

- While the Menu screen is displayed, you cannot record on or play a tape.
- While recording, the Menu screen cannot be displayed.
- During playback, the Menu screen can be displayed.

Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to CAMERA or VCR.



Displaying the MENU

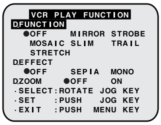
1 **Press MENU** to display the CAMERA or VCR menu (according to the POWER setting).

2 **Rotate JOG KEY** to select a menu item.

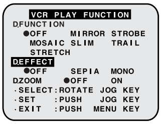
Setting the MENU Items (EX. VCR Mode menu)

A **Press JOG KEY** to set your selection.

B **Rotate JOG KEY** to select a menu item.



```
VCR PLAY FUNCTION
D.FUNCTION
  ●OFF      MIRROR  STROBE
   MOSAIC   SLIM    TRAIL
   STRETCH
D.EFFECT
  ●OFF      SEPIA   MONO
D.ZOOM    ●OFF      ON
·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```



```
VCR PLAY FUNCTION
D.FUNCTION
  ●OFF      MIRROR  STROBE
   MOSAIC   SLIM    TRAIL
   STRETCH
D.EFFECT
  ●OFF      SEPIA   MONO
D.ZOOM    ●OFF      ON
·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

C **Press JOG KEY** to set your selection.
- The “●” mark indicates selection.

D **Press MENU** twice to exit the menu.

CAMERA Main menu

1 : D. FUNCTION
CAMERA FUNCTION menu is displayed. To select D.FUNCTION, D.ZOOM, or PROGRESSIVE.

2 : ADJUST
CAMERA ADJUST menu is displayed. To select PROG. AE or CINEMA.

3 : REC MODE
CAMERA REC-MODE menu is displayed. To select REC-SPEED, AUDIO-REC, INDEX, SHUTTER, SELF-REC, WIND-CUT, or ZOOM-MIC.

4 : SET-UP
CAMERA SET-UP menu is displayed. To select REMOTE, BEEP, or MAGICVU (PV-DV402 only).

5 : DISPLAY SETTING
DISPLAY SETTING menu is displayed. To select DISPLAY, C.RESET, DATE/TIME, or CLOCK-SET.

6 : LCD/EVF SETTING
LCD/EVF SETTING menu is displayed. To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS.

7 : PHOTO TITLE
PHOTO TITLE menu is displayed. To select TITLE or MODE.

VCR Main menu

1 : PLAY FUNCTION
VCR PLAY FUNCTION menu is displayed. To select D. FUNCTION, D.EFFECT, or D.ZOOM.

2 : REC MODE
VCR REC MODE menu is displayed. To select REC-SPEED or AUDIO-DUB.

3 : PLAY MODE
VCR PLAY MODE menu is displayed. To select INDEX, AUDIO, REMOTE, or B.SEARCH.

4 : MULTI SETTING
MULTI SETTING menu is displayed. To select SPEED.

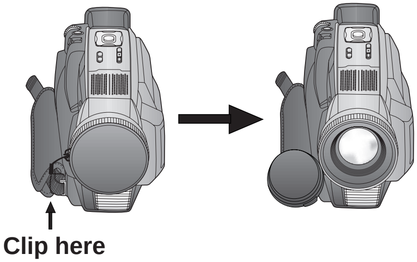
5 : DISPLAY SETTING
DISPLAY SETTING menu is displayed. To select DISPLAY, C.RESET, DATE/TIME, or CLOCK-SET.

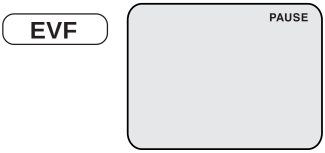
6 : LCD/EVF SETTING
LCD/EVF SETTING menu is displayed. To select LCD BRIGHTNESS, LCD COLOR or EVF BRIGHTNESS.

Camera Recording

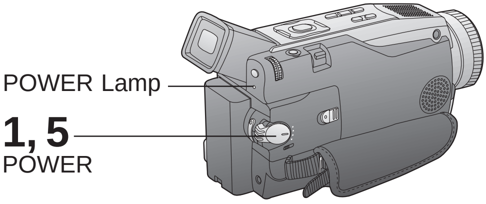
Simple Recording

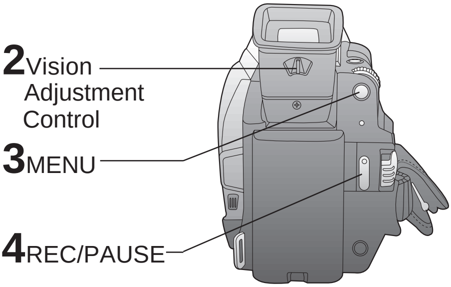
Remove the lens cap and clip it to the hand strap.





REC/PAUSE mode





WARNING:

- **Do not leave the Palmcorder with the EVF aimed directly at the sun as this may cause damage to the internal parts of the EVF.**
- **Do not lift, or carry, the Palmcorder by the EVF or the LCD Monitor.**

Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Insert a cassette with the record tab closed. (p. 7)

1 **Set POWER to CAMERA.**
- The POWER Lamp lights red.
- Be sure POWER is fully turned to the CAMERA position.

2 **With the Viewfinder Eye Cup held up against your eye, adjust the Vision Adjustment Control to your eyesight.**
- Adjust the EVF Brightness of the Viewfinder if necessary.
  Please refer to “To adjust the LCD/ EVF BRIGHTNESS or COLOR” on page 19.

3 **Set to REC-SPEED “SP” or “LP”** in the CAMERA Mode Menu.
(Menu OSD: p. 101)

4 **Press REC/PAUSE** to start recording.
- “REC” is displayed on the screen.

Press REC/PAUSE again to pause recording.

5 **Set POWER to OFF** when finished.
- To remove the cassette, slide TAPE EJECT.

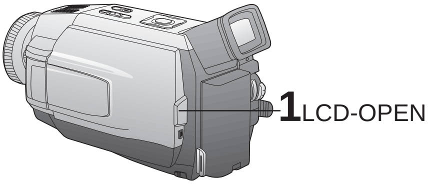
- When the Palmcorder is aimed at excessively bright objects, or bright lights, a vertical bar may appear in the picture. This is a normal characteristic of the CCD pick-up device. Try to avoid this whenever possible.

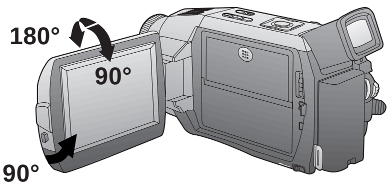
To conserve power

After 5 minutes, the Record/Pause mode will automatically change to Standby mode.
To resume recording, set POWER to OFF and then ON again.

Using the LCD Monitor

The LCD (Liquid Crystal Display) monitor can be used while recording.





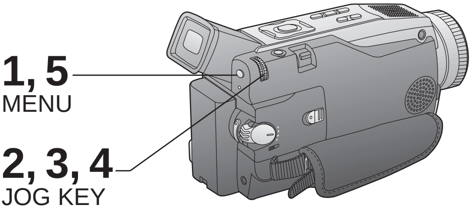
1 **Press LCD-OPEN** to unlock the LCD monitor.

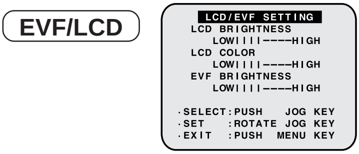
2 **Swing the LCD monitor fully open and adjust the viewing angle.**
- The LCD monitor will automatically turn on.
- When the LCD monitor is completely closed, it will shut off automatically to save power.
- Adjust the LCD Brightness and/or color of the LCD monitor if necessary. Please refer to “To adjust the LCD/EVF BRIGHTNESS or COLOR” below.

3 **Start recording.**

Note
- Using the LCD monitor will reduce battery operating time.
- Close the LCD monitor completely when not in use.

To adjust the LCD/EVF BRIGHTNESS or COLOR





```
LCD/EVF SETTING
LCD BRIGHTNESS
    LOW||||----HIGH
LCD COLOR
    LOW||||----HIGH
EVF BRIGHTNESS
    LOW||||----HIGH

·SELECT:PUSH    JOG KEY
·SET   :ROTATE  JOG KEY
·EXIT  :PUSH   MENU KEY
```

1 **Press MENU** to display the main menu screen.

2 **Rotate JOG KEY** to select LCD/EVF SETTING from the main menu screen. (Menu OSD: pp. 102, 104)

3 **Press JOG KEY** to display the LCD/EVF SETTING screen.

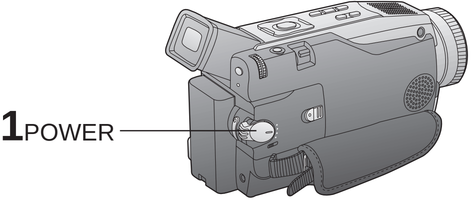
4 **Press JOG KEY** to select LCD BRIGHTNESS, LCD COLOR, or EVF BRIGHTNESS, then **rotate JOG KEY** to adjust.

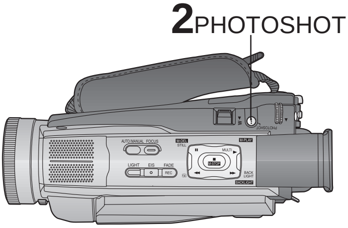
5 **Press MENU** twice to exit this mode.

Camera Recording

Digital PhotoShot Mode

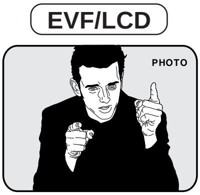
Use this feature to record a seven second (approx.) still image on the tape from the current camera picture. Audio is also recorded for on-the-spot narration. Or, you can add narration later with the Audio Dubbing feature to make an interesting slide show, etc. (p. 44)





1 **Set POWER to CAMERA.**

2 **Press PHOTOSHOT** in Record/Pause mode. “PHOTO” will appear in the EVF or the LCD monitor.

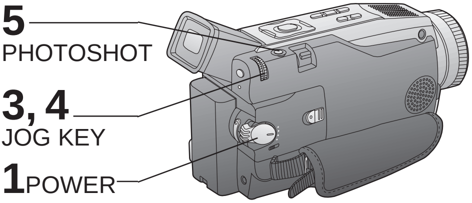


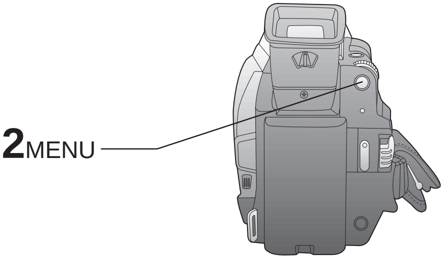
Note

- If SHUTTER on the menu screen is set to ON, a sound effect similar to the shutter of a film camera will be heard when PHOTOSHOT is pressed.
- When PHOTOSHOT is pressed, the playback image takes approx. 7 seconds to process. After that, the Camera mode screen will be displayed.

Progressive PhotoShot Mode

With the progressive PhotoShot Function, you can record still pictures with higher resolution than with the normal PhotoShot Function.





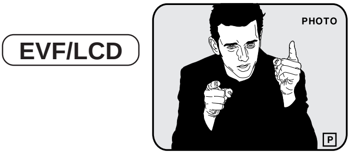
1 **Set POWER to CAMERA.**

2 **Press MENU** to display the CAMERA mode menu screen.

3 **Rotate JOG KEY** to select D.FUNCTION, and **press JOG KEY** to display the CAMERA FUNCTION menu screen.

4 **Rotate JOG KEY** to select PROGRESSIVE, and **press JOG KEY** to select ON or OFF.
- Press MENU twice to exit.
- “P” will appear in the EVF or the LCD monitor.

5 **Press PHOTOSHOT** in Record/Pause mode.

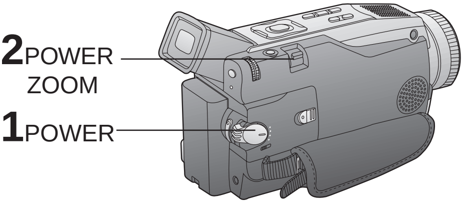


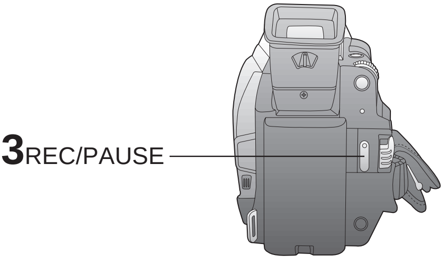
Note

- This function may not work with D.E.I.S., D.ZOOM and D.FUNCTION functions.

Zoom

You can gradually zoom in for close ups or zoom out for wide angle shots.





1 **Set POWER to CAMERA.**

2 **Zoom slowly:**
by lightly pressing the "T" (Telephoto) or the "W" (Wide Angle) side of the POWER ZOOM.

Zoom quickly:
by applying more pressure.

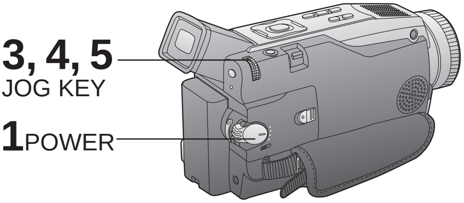
3 **Start recording.**

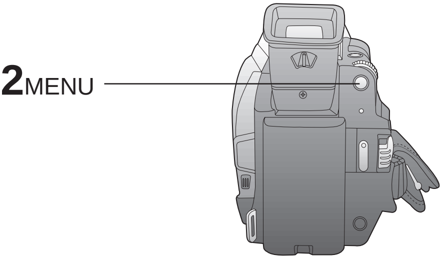
Note

- The zooming speed ranges from a slow 17 seconds to a fast 1.5 seconds according to the amount of pressure applied to the POWER ZOOM.

Zoom Microphone Function

Along with the zooming operation, the microphone's directional angle and sensitivity are varied for recording sounds.





1 **Set POWER to CAMERA.**

2 **Press MENU** to display the CAMERA mode menu screen.

3 **Rotate JOG KEY** to select REC MODE, then **press JOG KEY** to display the CAMERA REC-MODE menu screen.

4 **Rotate JOG KEY** to select ZOOM-MIC in the CAMERA REC-MODE menu. (Menu OSD: p. 101)

5 **Press JOG KEY** to select ON.
- Press MENU twice to exit.
- "Z.MIC" will appear on the screen.

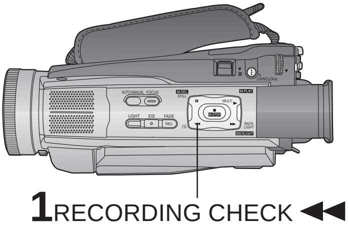
Note

- The Zoom Microphone Function may not work effectively if the surrounding noise is too loud.

Camera Recording

Recording Check

To playback the final few seconds of the last recorded scene in the REC/PAUSE mode.



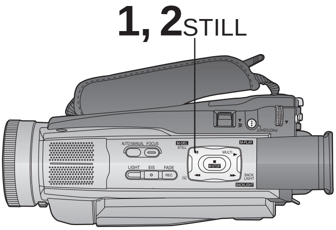
1 **Press RECORDING CHECK ◀◀** briefly in the REC/PAUSE mode.

The [CHK] indication appears.
After checking, the Palmcorder returns to the REC/PAUSE mode.

- For Recording Check, the Palmcorder must be in the same mode (SP or LP) as was used for recording, otherwise the playback picture is distorted.

Recording Still Pictures

You can record still pictures of any desired duration together with sound.

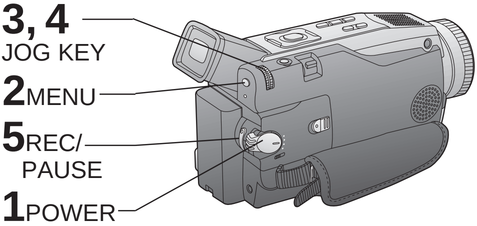


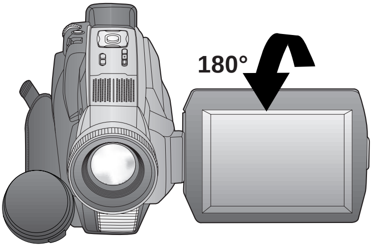
1 While in RECORD mode, **press STILL and hold for 2 seconds** to capture a still picture. The captured still picture will be recorded together with sound.

2 **Press STILL once again** to release the still picture. The camera will resume recording real-time pictures.

Self Recording

Rotate the LCD monitor 180 degrees so it faces the same direction as the lens to record yourself.





1 **Set POWER to CAMERA.**

2 **Press MENU** to display the CAMERA mode menu screen.

3 **Rotate JOG KEY** to select REC MODE, then **press JOG KEY** to display the CAMERA REC-MODE menu screen.

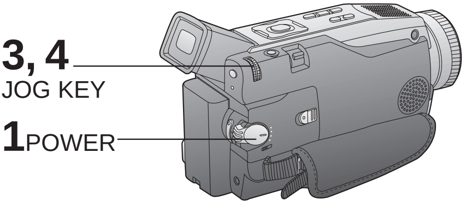
4 **Rotate JOG KEY** to select SELF-REC, and then **press JOG KEY** to select MIRROR.
- The picture in the LCD monitor will appear reversed.

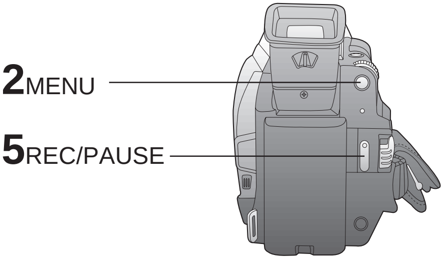
5 **Start recording.**

Special Effect Features

CINEMA Mode

You can record a picture compatible with a wide-screen TV equipped with an S2 picture terminal.





1 **Set POWER to CAMERA.**

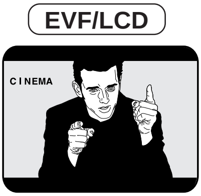
2 **Press MENU** to display the CAMERA mode menu screen.

3 **Rotate JOG KEY** to select ADJUST, then **press JOG KEY** to display the CAMERA ADJUST menu screen.

4 **Rotate JOG KEY** to select CINEMA, and then **press JOG KEY** to select ON.

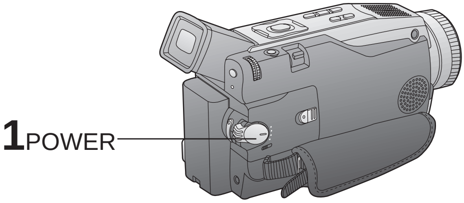
- A black strip will appear at the top and bottom of the picture.
- Press MENU twice to exit.
- “CINEMA” will appear on the screen.

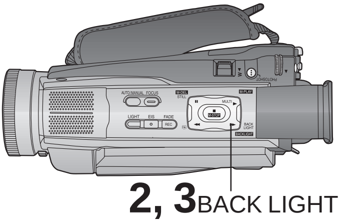
5 **Start recording.**



Backlight

Use when recording a subject that is darker than the surrounding scene, in a shadowed area, or when the light source is behind your subject.



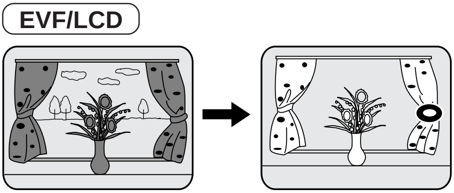


1 **Set POWER to CAMERA.**

2 **Press BACK LIGHT** to activate the Backlight feature.

- The Indicator “◯” will appear in the EVF or LCD monitor.

3 **Press BACK LIGHT again** to cancel the Backlight feature.



Note

- The Indicator “◯” will not appear in the EVF or LCD monitor when OFF is selected in the DISPLAY menu.

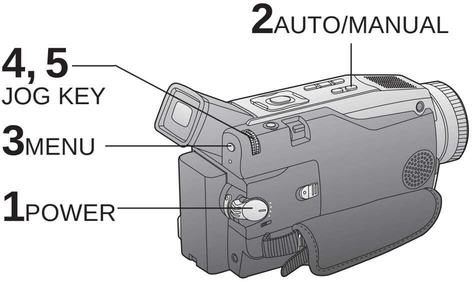
Special Effect Features

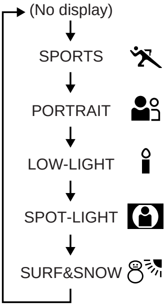
Program AE

The Auto Exposure feature can be used to make quality recordings in a variety of scene situations.

Note

- When MagicVu (PV-DV402 only) is ON, Program AE and H.S.S. cannot be set in the menu.





Note

SPORTS mode

- The recorded images will not be so blurred when they are viewed later using slow or still picture playback.
- When playing back a sports mode recording, the movement may appear slightly jerky.
- Do not use this mode when recording under fluorescent, mercury, or sodium lighting. These types of lights will affect the color and brightness of the images.
- A vertical band of light might appear when recording objects that are brightly illuminated or highly reflective.
- If the amount of light is insufficient, the SPORTS “🏃” indicator will flash in the EVF or the LCD monitor.
- The image may flicker if this mode is used indoors.

1 **Set POWER to CAMERA.**

2 **Hold down AUTO/MANUAL for more than 0.7 seconds** so that the “MNL” indication appears in the EVF or the LCD monitor.

3 **Press MENU** to display the menu screen.

4 **Rotate JOG KEY** to select **ADJUST**, and then **press JOG KEY** to display the CAMERA ADJUST menu screen.

5 **Rotate JOG KEY** to select **PROG.AE**, then **press JOG KEY repeatedly** to select one of the five modes shown below.

6 **Repeat steps 2~5** to select OFF to cancel this feature.

Mode	Indication
🏃	For recording fast action scenes.
👥	For recording only subjects in the foreground, while ignoring subjects in the background.
🕯	For recording in extreme low light conditions.
🔦	Recording in situations where subjects are under a spotlight(s).
⛄	For recording in locations with a high degree of “Dazzle,” such as snow slopes and the seashore.

PORTRAIT mode

- The image may flicker if this mode is used indoors.

LOW-LIGHT mode

- Scenes recorded in extremely low light levels may not come out properly.

SPOT-LIGHT mode

- If the recorded subject is extremely bright, the picture may appear whitish.

SURF&SNOW mode

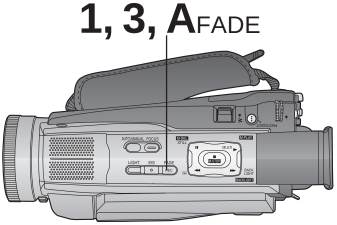
- If the recorded subject is extremely bright, the picture may appear whitish.

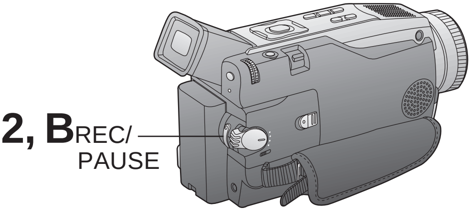
- It is not possible to select the SPORTS mode or PORTRAIT mode together with the MagicPix mode in the Digital function camera menu.

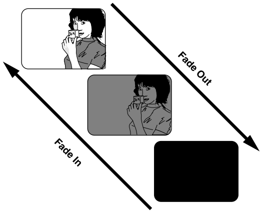
Special Effect Features

Audio/Video Fade In/Out

You can make smoother scene transitions for a more professional look.







Fade In

Starting the first scene with “fade in” is very effective.

1. **In REC/PAUSE mode, hold down FADE** until the picture fades out.
2. **Press REC/PAUSE** to start recording.
3. **Release FADE** and the picture will gradually fade in.

Fade Out

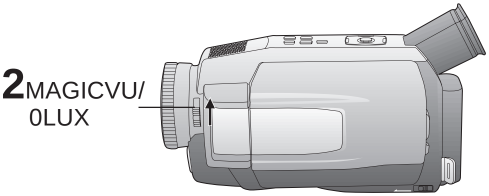
Use to create a soft ending or (together with fade in) for a soft transition from one scene to the next.

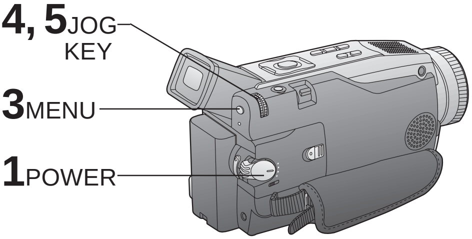
A **During recording, hold down FADE** until the picture fades out.

B **Press REC/PAUSE** to pause the recording.

MagicVu IR Filter (0 Lux) (PV-DV402 only)

MagicVu allows you to record video in total darkness. You can select the color of image: B/W, green, or blue.
(Menu OSD: p. 102)





1. **Set POWER to CAMERA.**
2. **Slide MAGICVU/0LUX to ON.**
   - A black and white image appears.
   - “MAGICVU” will appear on the screen.
3. **Press MENU** to display the menu screen.
4. **Rotate JOG KEY** to select SET-UP, and then **press JOG KEY** to display the CAMERA SET-UP menu screen.
5. **Rotate JOG KEY** to select MAGICVU, and then **press JOG KEY repeatedly** to select B/W, BLUE, or GREEN.
   - Press MENU twice to exit.
   - To cancel this feature, slide MAGICVU/0LUX to OFF.

Note

- The subject can be up to 3 m (10 feet) away.

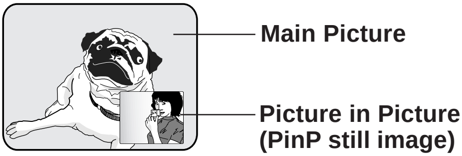
Special Effect Features

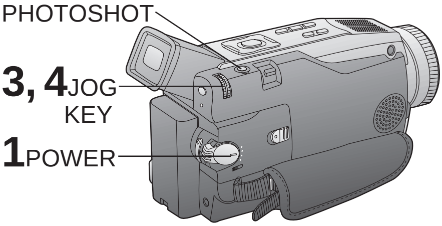
Picture in Picture (PinP)

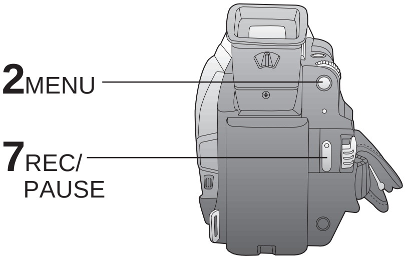
You can display a PinP (still image) screen on the Main Picture.

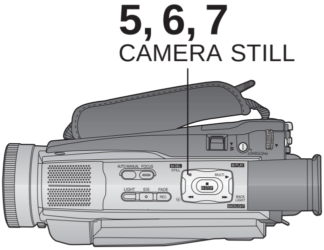
Note

- PinP position is fixed at the bottom right of the screen.


Main Picture
Picture in Picture (PinP still image)


PHOTOSHOT
3, 4 JOG KEY
1 POWER


2 MENU
7 REC/ PAUSE


5, 6, 7
CAMERA STILL

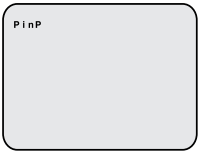
1 **Set POWER to CAMERA.**

2 **Press MENU** to display the menu screen.

3 **Rotate JOG KEY repeatedly** to select D.FUNCTION, then **press JOG KEY** to display the CAMERA FUNCTION menu screen.

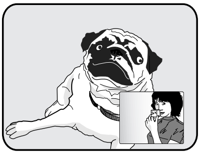
4 **Press JOG KEY** to select PinP.

- **Press MENU twice** to exit this menu.
- “PinP” will appear in the EVF or the LCD monitor.



5 Aim at the scene you wish to place as PinP, then **press II (CAMERA STILL)** to freeze the image.

6 **Press II (CAMERA STILL) again** to place the frozen image as PinP.



7 **Press REC/PAUSE** to record a scene with PinP image.

- **Press PHOTOSHOT** to record a scene with PinP image in PhotoShot mode.
- **Press II (CAMERA STILL) again** to remove PinP image.

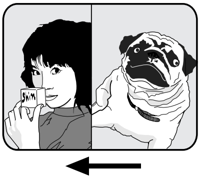
Photo Title

You can use PhotoShot images stored on a Memory Card to record a WIPE or MIX effect on a cassette.

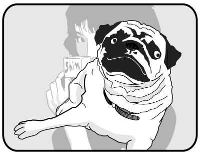
Note

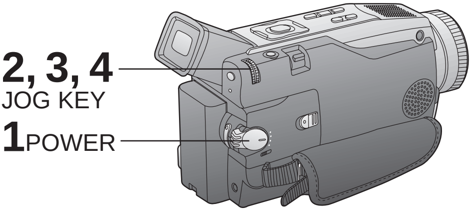
When Photo Title is set to SET, the selected image and Title will appear before each recording is made.

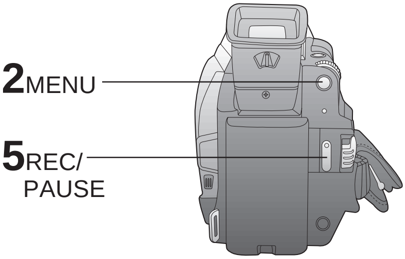
WIPE : The Photo title is replaced with the current scene in a wiping motion.



MIX : The photo title is replaced with the current scene in a gradual mixing effect.







Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

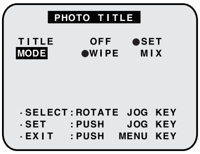
1 **Set POWER to CAMERA.**

2 **Press MENU** to display the CAMERA menu screen. Then **rotate and press JOG KEY** to select PHOTO TITLE .

3 **Rotate and press JOG KEY** to select and set MODE and then TITLE .

1st : Select and set MODE (WIPE or MIX).

2nd : Select and set TITLE to “SET”.



```
PHOTO TITLE

TITLE      OFF    ●SET
MODE      ●WIPE    MIX

·SELECT:ROTATE  JOG  KEY
·SET   :PUSH    JOG  KEY
·EXIT  :PUSH    MENU KEY
```

- “PLEASE WAIT” appears on-screen.
- The Multi image screen is displayed.

4 **Rotate and press JOG KEY** to select and set an image.

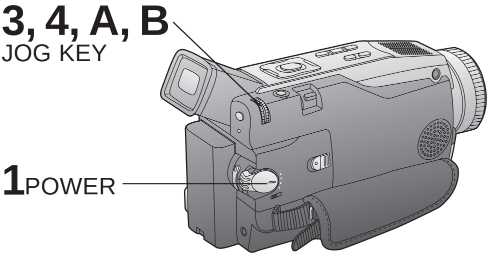
- “PLEASE WAIT” is displayed while image is processed. Then, “PHOTO TITLE SET” is displayed for approx. 3 seconds, and the screen goes back to the Camera mode screen.
- After Photo Title is performed, Digital Function turns off.

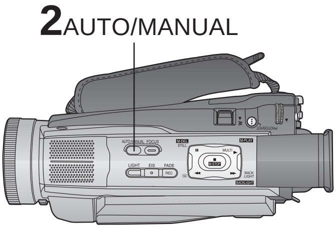
5 **Press REC/PAUSE** to start recording with Photo Title.

- WIPE or MIX screen is displayed at the beginning of the recording. Then the Photo Title setting will be cleared automatically.

White Balance

Auto White Balance (“AWB”) automatically maintains optimum color balance in most lighting conditions. However, when using Digital Functions, etc., you may get better results by using the manual adjustment.





Mode	Description
AWB	Automatically maintains optimum color balance in most lighting conditions.
💡	When the source illumination is a halogen lamp.
☀	When shooting outdoors on a sunny day.
*◩	The White Balance setting that was previously set manually.

Note

- When ZOOM is set to 10X or higher, White Balance cannot be adjusted.

1 **Set POWER to CAMERA.**

2 **Hold down AUTO/MANUAL for more than 0.7 seconds** so that the “MNL” indication appears in the EVF or the LCD monitor.

3 **Press JOG KEY repeatedly** until “AWB” appears in the EVF or LCD monitor.

4 **Rotate JOG KEY** to select other modes. (See mode chart at left.)
- Hold down AUTO/MANUAL for more than 0.7 seconds to cancel the setting.

* For manual White Balance adjustment:

A. **Rotate JOG KEY** to select “◩” .

B. **Point the Palmcorder at a white object (full-screen) and hold JOG KEY down until “◩” indication stops flashing.**
- If “◩” indication flashes when the Palmcorder is turned on, the previous manual White Balance setting is in effect.

In the following cases, the “◩” indication flashes:
- The flashing indicates that the previously adjusted White Balance setting is still kept. This setting will be kept until White Balance is adjusted again.
- Correct White Balance may not be attainable manually in poor lighting.

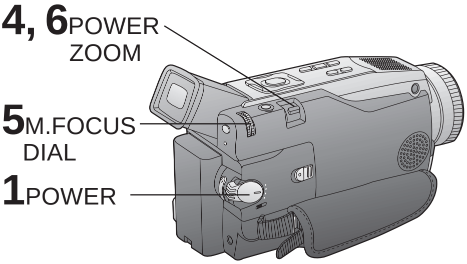
Auto Focus

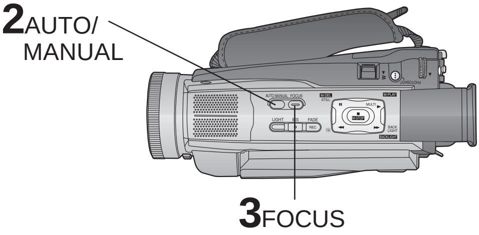
The Palmcorder automatically adjusts the focus over the entire zoom range.

Manual Focus

Use Manual Focus (MF) when recording ...
- a subject through glass.
- a scene where the subject is far from the Palmcorder and there are objects in the foreground.
- a subject with distinct horizontal stripes.
- a subject not centered in the Viewfinder.
- subjects with shiny surfaces.
- an obliquely angled subject.
- a bright, flat subject such as a white wall.
- in low light situations.
- a scene with fast motions, like a golf swing.

Re-focusing may be required
- when your Palmcorder is aimed at a new scene.





1 **Set POWER to CAMERA.**

2 **Hold down AUTO/MANUAL for more than 0.7 seconds** so that the “MNL” indication appears in the EVF or the LCD monitor.

3 **Press FOCUS** so that the “MF” (Manual Focus) indication appears in the EVF or the LCD monitor.

4 **Press and hold POWER ZOOM, “T” side (Telephoto),** until the lens is at maximum zoom in.

5 **Turn M.FOCUS DIAL** until the picture is in focus.
- It may be necessary to back away from the subject to focus the image properly.

6 **Press POWER ZOOM to “W” or “T” as desired.**
- The subject will remain in focus over the entire zooming range.
- It may be necessary to back away from the subject to focus the image properly.

Note
- DISPLAY (Menu OSD: p. 102) must be set to on for MF, AE, W.BALANCE, or BACK LIGHT to be displayed on the LCD or EVF.

Macro Focus (for close-ups)

Press the “W” side of POWER ZOOM to the maximum wide angle position.

Auto Focus will function with the subject as close as 25 mm (1 inch) in front of the lens.

Advanced Settings

High Speed Shutter

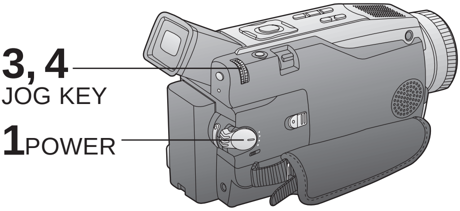
To record high speed motion (e.g. tennis stroke) with improved STILL or SLOW MOTION playback when watching the tape on this Palmcorder.

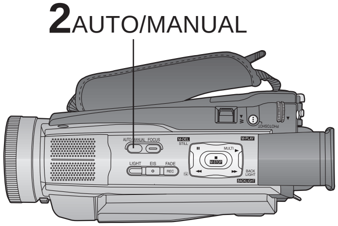
Auto Shutter

In the AUTO mode (no indication in the EVF and LCD monitor), the Palmcorder will automatically adjust the shutter speed (up to 1/350).

- AUTO mode is automatically selected whenever the POWER Switch is set to CAMERA.

Manual Selection





Note

- For proper color reproduction, it is recommended that you use this feature outdoors. For indoor High Speed Shutter recording, additional halogen or tungsten light should be provided. Fluorescent light will degrade the picture quality.
- More light is required for the fastest shutter speeds.
- The Auto Focus system may not operate properly in insufficient light when using the High Speed Shutter.
- When PROG.AE is ON, you cannot manually select the shutter speed.
- When MagicVu (PV-DV402 only) is ON, Program AE and H.S.S. cannot manually select the shutter speed.
- When MagicPix is ON, H.S.S. cannot manually select the shutter speed.

1 **Set POWER to CAMERA.**

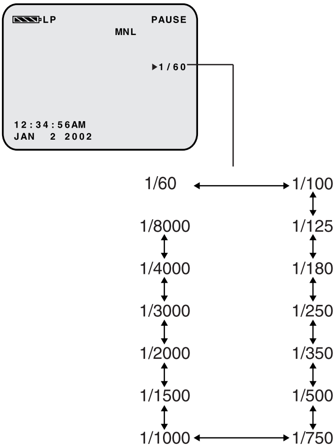
2 **Hold down AUTO/MANUAL for more than 0.7 seconds** so that the “MNL” indication appears in the EVF or the LCD monitor.

3 **Press JOG KEY repeatedly** to display the shutter speed.

4 **Rotate JOG KEY** to choose one of the following shutter speeds.

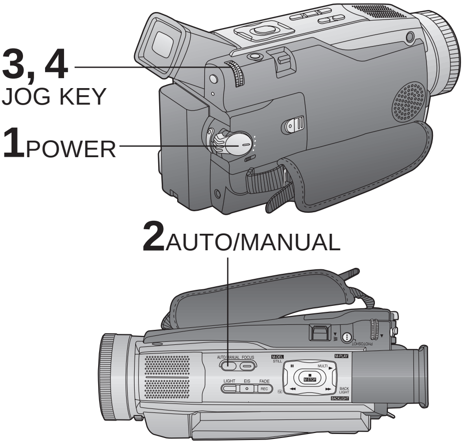
- Hold down AUTO/MANUAL for more than 0.7 seconds to cancel the setting.

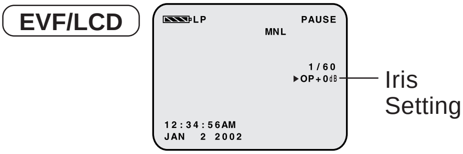
EVF/LCD



Adjusting the Iris Manually

Normally, the Palmcorder adjusts the exposure automatically. However, when the background is extremely bright, or when the subject is backlit, you can compensate by adjusting the iris manually.





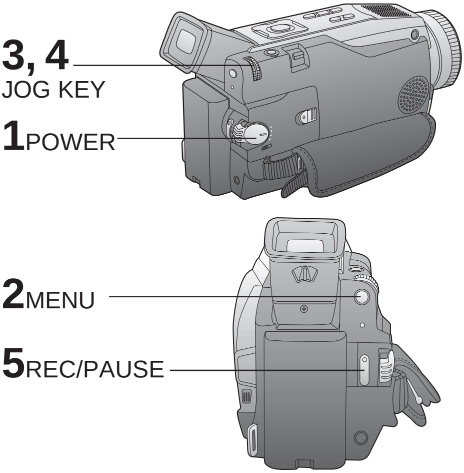
1. **Set POWER to CAMERA.**
2. **Hold down AUTO/MANUAL for more than 0.7 seconds** so that the “MNL” indication appears in the EVF or the LCD monitor.
3. **Press JOG KEY repeatedly** so that Iris setting indication appears in the EVF or the LCD monitor.
4. **Rotate JOG KEY** to adjust the iris;
   - When a value closer to “CLOSE” is selected, the image becomes darker.
   - When a value closer to “OP+18dB” is selected, the image becomes brighter.
   - Hold down AUTO/MANUAL for more than 0.7 seconds to cancel the setting.

Note

- The value to which +dB is attached indicates a gain value. If this value is too large, the quality of the image deteriorates.
- Depending on ZOOM magnification, the iris value may not be displayed correctly.
- If you are using Program AE mode, you cannot adjust the iris. If the iris is adjusted manually, the above modes will be canceled.

WIND-CUT

You can reduce sound distortion caused by wind hitting the microphone.

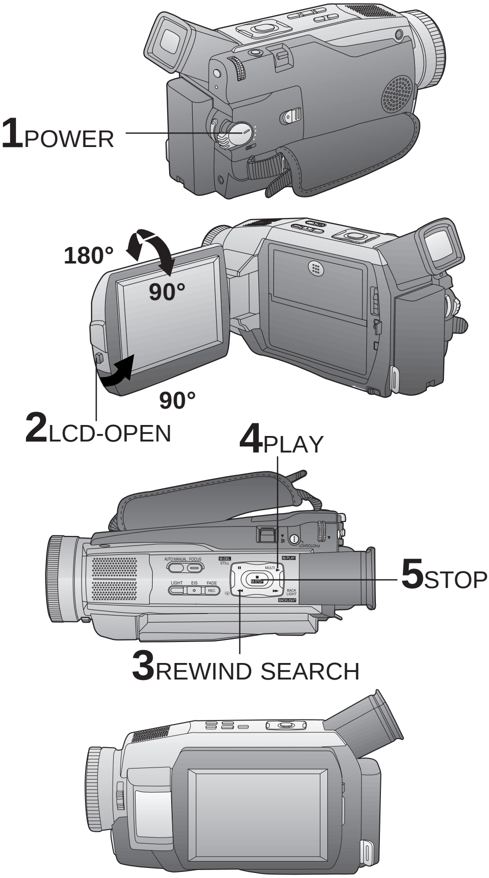


1. **Set POWER to CAMERA.**
2. **Press MENU** to display the CAMERA mode menu screen.
3. **Rotate JOG KEY** to select **REC MODE**, then **press JOG KEY** to display the CAMERA REC-MODE menu screen.
4. **Rotate JOG KEY** to select **WIND-CUT**, and then **press JOG KEY** to select ON.
   - Press MENU twice to exit.
   - “WIND-CUT” will appear in the EVF or LCD monitor.
5. **Start recording.**

Playback Your Recordings

Playback using the LCD Monitor

You can also use the LCD monitor to playback your recording.



Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Insert a recorded cassette.

1 **Set the POWER to VCR.**
- The POWER lamp lights red.
- Be sure POWER is fully turned to the VCR position.

2 **Press LCD-OPEN** to unlock the LCD monitor and swing open.

3 **Press ◀◀ (REWIND/SEARCH)** to rewind the tape.

4 **Press ▶ (PLAY)** to start playback.

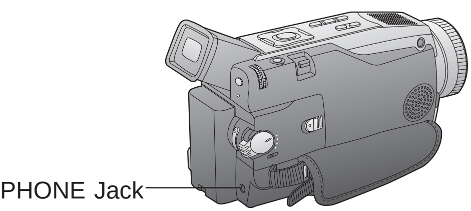
5 **Press ■ (STOP)** to stop playback**.**
- When the tape reaches its beginning during rewind or rewind search, it will stop automatically.

Note

- When a tape recorded in LP mode on another digital video camera is played back on this unit, the picture may appear mosaic.
- Using the LCD monitor reduces battery operating time.
- You can place the Palmcorder on a table, etc. for viewing. Rotate the LCD Monitor 180° and swing it up against the Palmcorder body as shown.

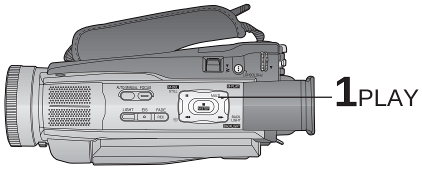
Connecting Earphone (not supplied)

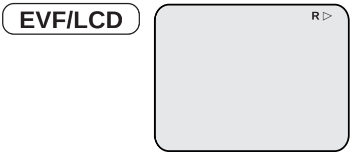
You can connect earphones (not supplied) to the PHONE Jack.



Playback Your Recordings

Repeat Playback



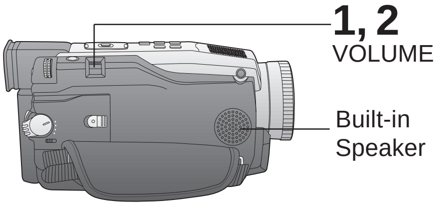


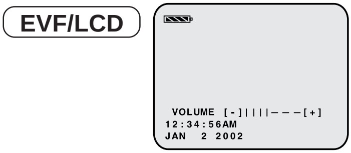
R ▷

1 **Press PLAY for more than 5 seconds** in STOP mode.
- The Palmcorder will go into Repeat Playback mode when the tape reaches its end.
- The letter "R ▷" will appear in the EVF and LCD monitor.

2 **Turn the Palmcorder OFF** to exit the Repeat Playback mode.

Adjusting the Volume





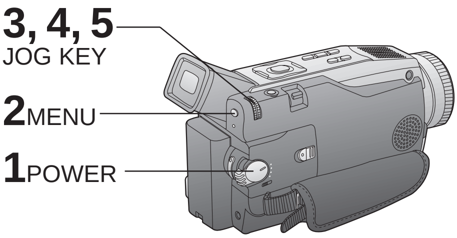
```
VOLUME [-]||||———[+]
12:34:56AM
JAN  2 2002
```

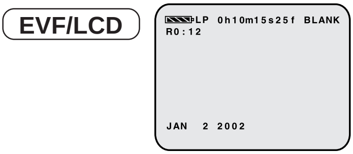
1 **Rotate VOLUME** to adjust the volume of the built-in speaker in PLAY mode.
- The volume setting screen appears.

2 **Press "T"** to increase the volume or **press "W"** to decrease the volume.

Blank Search

You can go directly to a blank portion of tape and start recording exactly where you left off.





```
LP  0h10m15s25f  BLANK
R0:12

JAN  2 2002
```

1 **Set POWER to VCR.**

2 **Press MENU** to display the VCR mode menu screen.

3 **Rotate JOG KEY** to select PLAY MODE, then **press JOG KEY** to display the VCR PLAY MODE menu screen.

4 **Rotate JOG KEY** to select B.SEARCH in the VCR PLAY MODE menu. (Menu OSD: p. 103)

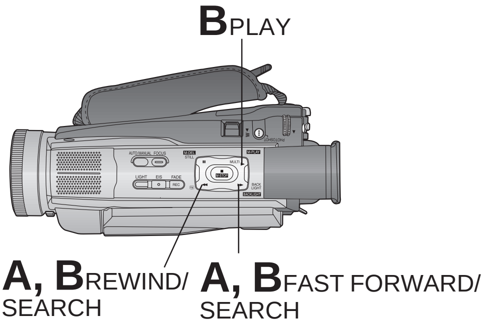
5 **Press JOG KEY** to select ON.
- "BLANK" will appear on the screen.

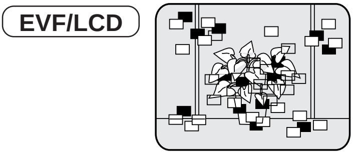
Special Effect Features

Note

- Sound is muted during all special effects.

Rapid Visual Search


B PLAY
A, B REWIND/ SEARCH
A, B FAST FORWARD/ SEARCH



A During playback, **hold down ▶▶ (FAST FORWARD/SEARCH)** or **◀◀ (REWIND/SEARCH).** The search will continue for as long as the button is held down.

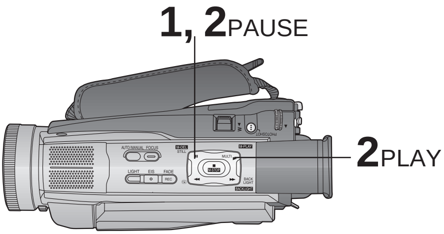
OR

B **Press ▶▶ (FAST FORWARD/ SEARCH) or ◀◀ (REWIND/SEARCH)** once for a continuous rapid visual search.
Press ▶ (PLAY) to release.

Note

- When executing a rapid visual search, the picture may become bluish for an instant or mosaic. This is normal during this mode.

STILL Picture


1, 2 PAUSE
2 PLAY

1 **Press II (PAUSE)** during playback.

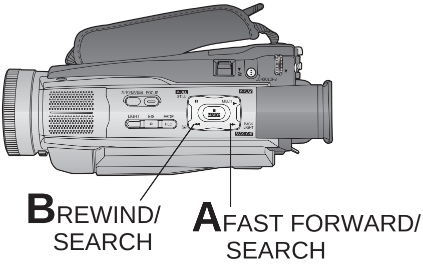
2 **Press ▶ (PLAY) or II (PAUSE)** to release.

Note

- To protect the tape and video heads, your Palmcorder’s operating modes will revert as follows:
  STILL ——▶ STOP (after 3 minutes.)

Fast Forward/Rewind Check

Monitor normal picture playback during fast forward or rewind.


B REWIND/ SEARCH
A FAST FORWARD/ SEARCH

A **Hold down ▶▶ (FAST FORWARD/ SEARCH)** during fast forward.

B **Hold down ◀◀ (REWIND/SEARCH)** during rewind.

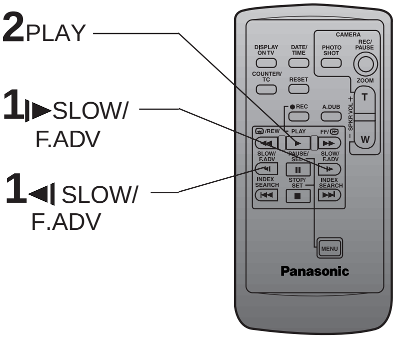
- The picture will appear for as long as the button is held down.

Special Effect Features

Note

- Sound is muted during all special effects.

Slow Motion Playback (Remote Control Only)


2PLAY
1|▶SLOW/F.ADV
1◀| SLOW/F.ADV
CAMERA
DISPLAY ON TV
DATE/TIME
PHOTO SHOT
REC/PAUSE
COUNTER/TC
RESET
ZOOM
T
W
● REC
A.DUB
SPKR VOL
/REW
PLAY
FF/
SLOW/F.ADV
PAUSE/SEL
SLOW/F.ADV
INDEX SEARCH
STOP/SET
INDEX SEARCH
MENU
Panasonic

1 Forward Slow:
Press |▶ SLOW/F.ADV during play.

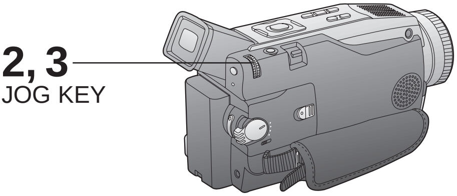
Reverse Slow:
Press ◀| SLOW/F.ADV during play.

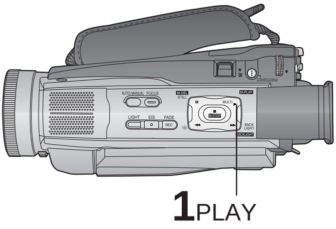
2 **Press PLAY** to release. (During reverse slow motion playback, time code indication may not change regularly.)

Note

- Palmcorder will automatically STOP when in slow motion for more than 10 minutes.
- During slow motion playback, picture may move up and down. This is normal.
- When you start or stop slow motion playback, the picture may become bluish for an instant.

Variable Speed Search





1 **Press ▶ (PLAY)** to start playback**.**

2 **Press JOG KEY** for about 1 second.

3 **Rotate JOG KEY** to adjust the playback speed.
- Rotate JOG KEY clockwise for forward playback.
- Rotate JOG KEY counterclockwise for reverse playback.

To return to normal playback:
Press ▶ (PLAY). Playback will continue at normal speed.

Note

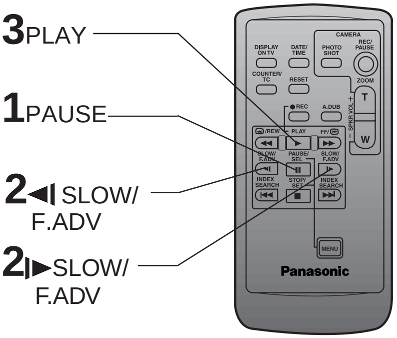
- The Variable Speed Search function offers a choice of six playback speeds (1/5X (LP mode: 1/3X), 1X, 2X, 5X, 10X, 20X) both in forward and reverse directions.
- The review playback at the 1X speed is playback in reverse direction.
- During the Variable Speed Search (at a speed other than 1X), mosaic-like patterns will appear in the picture.
- During the Variable Speed Search, sound is muted.

Special Effect Features

Note

- Sound is muted during all special effects.

Frame by Frame Advance (Remote Control Only)


3PLAY
1PAUSE
2◀| SLOW/F.ADV
2|▶SLOW/F.ADV
CAMERA
DISPLAY ON TV
DATE/TIME
PHOTO SHOT
REC/PAUSE
COUNTER/TC
RESET
ZOOM
T
W
REC
A.DUB
SPKR VOL
REW
PLAY
FF
SLOW/F.ADV
PAUSE/SEL
SLOW/F.ADV
INDEX SEARCH
STOP/SET
INDEX SEARCH
MENU
Panasonic

1 **Press PAUSE** during playback.

2 **Press |▶ SLOW/F.ADV** to do a frame by frame advance.

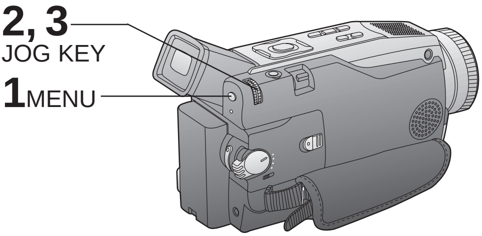
Press ◀| SLOW/F.ADV to do a frame by frame reverse.

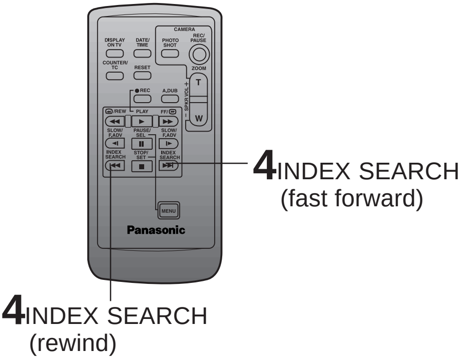
3 **Press PLAY** to release.

Note

- If you hold down SLOW/F.ADV, you can see a continuous series of still images at a slower speed than normal slow mode.
- During frame by frame advance, a few frames may move automatically, and the picture may become bluish for an instant.

Index Search (Photo/Scene) (Remote Control Only)


2, 3
JOG KEY
1MENU


4INDEX SEARCH
(fast forward)
4INDEX SEARCH
(rewind)
CAMERA
DISPLAY ON TV
DATE/TIME
PHOTO SHOT
REC/PAUSE
COUNTER/TC
RESET
ZOOM
T
W
REC
A.DUB
SPKR VOL
REW
PLAY
FF
SLOW/F.ADV
PAUSE/SEL
SLOW/F.ADV
INDEX SEARCH
STOP/SET
INDEX SEARCH
MENU
Panasonic

1 **Press MENU** to display the VCR mode menu screen.

2 **Rotate JOG KEY** to select **PLAY MODE**, and **press JOG KEY** to display the VCR PLAY MODE menu screen.

3 **Rotate JOG KEY** to select **INDEX**, and **press JOG KEY** to select PHOTO or SCENE.

- Press MENU twice to exit.

4 **Press INDEX SEARCH fast forward or rewind** on the remote control to advance or rewind the tape to playback a PhotoShot scene. To view the next PhotoShot, INDEX SEARCH must be pressed again.

Note

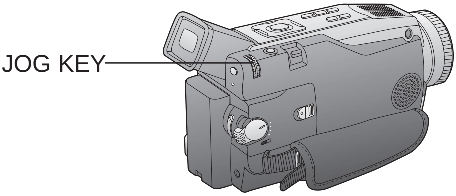
- The picture quality will deteriorate slightly.
- The tape remaining indicator will not appear while the PHOTOSHOT feature is used.
- In the Photo/Scene Index Search mode, the shutter sound effect may not be able to be heard even when SHUTTER is set to ON.
- Photo Index Search may fail to detect a recorded PhotoShot image if the image is 3 seconds or less.

Special Effect Features

Note

- Sound is muted during all special effects.

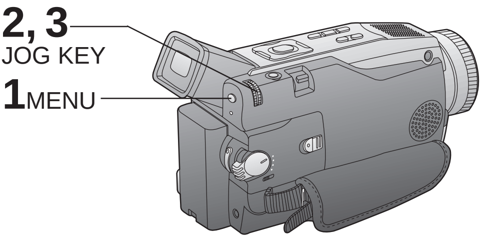
Jog Frame by Frame Search (Palmcorder Only)

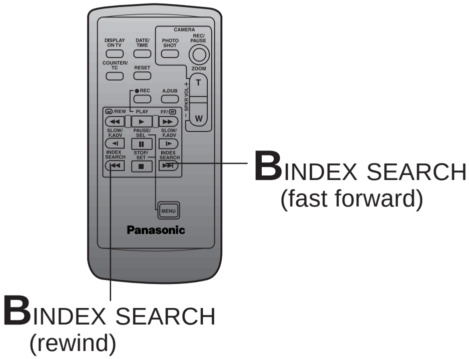


During Still mode, **rotate JOG KEY** to advance or reverse the picture one frame at a time.

Index Forward/Reverse Search (Remote Control Only)

Search for a particular scene by using the electronic index marks placed at the beginning of each recording.


2, 3
JOG KEY
1MENU


CAMERA
DISPLAY ON TV
DATE/ TIME
PHOTO SHOT
REC/ PAUSE
COUNTER/ TC
RESET
ZOOM
T
W
REC
A.DUB
SPK/VOL
REW
PLAY
FF
SLOW/ F.ADV
PAUSE/ SEL
SLOW/ F.ADV
INDEX SEARCH
STOP/ SET
INDEX SEARCH
MENU
Panasonic
B INDEX SEARCH (fast forward)
B INDEX SEARCH (rewind)

Top Scan

If you hold down INDEX SEARCH more than 2 seconds, the Palmcorder will scan for scenes (or PhotoShots) and playback the first few seconds of each.

To cancel this function, press PLAY or STOP.

Note

- Search will not work if there is a succession of PhotoShots.

1 **Press MENU** to display the VCR mode menu screen.

2 **Rotate JOG KEY** to select PLAY MODE, then **press JOG KEY** to display the VCR PLAY MODE menu screen.

3 **Rotate JOG KEY** to select INDEX, and then **press JOG KEY** to select PHOTO or SCENE. (Menu OSD: p. 103)
- Press MENU twice to exit.

A **Place the Palmcorder in the VCR STOP mode.**

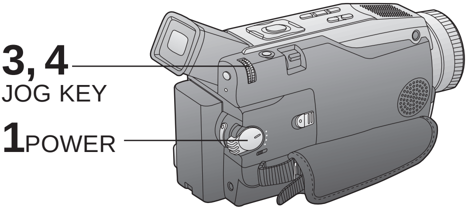
B **Press INDEX SEARCH fast forward or rewind** for the number of recordings (indexes) forward or back you want to view. The Palmcorder will advance or rewind to the desired recording and automatically start playback.

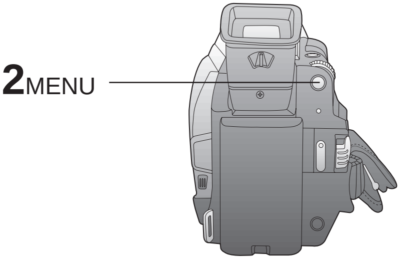
- The number of times you pressed the button is displayed in the EVF and the LCD monitor if you set INDEX on the VCR menu to SCENE. (Menu OSD: p. 103) (Ex., if you press the button three times, “S3” will appear.)
- If the interval between scenes is less than 1 minute, index search may not operate properly.
- Response time from pressing the button and the change in the scene number is quite slow. Do not press INDEX SEARCH rapidly and continuously.
- During Reverse Index Search mode, playback will not begin when a tape rewinds all the way to the beginning.

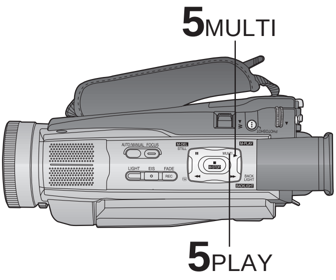
Special Effect Features

Strobe Multi Mode

In Strobe Multi Mode, you can select the rate at which a succession of still screens are captured from the playback picture.







1 **Set POWER to VCR.**

2 **Press MENU** to display the menu screen.

3 **Rotate and press JOG KEY** to select and set MULTI SETTING .

4 **Press JOG KEY repeatedly** to set desired speed.

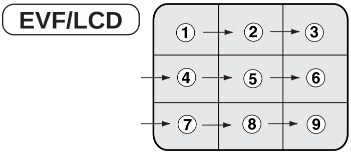
Strobe Speeds

Strobe Speeds	9 screen capture time
FAST	Every 0.3 seconds
NORM	Every 0.6 seconds
SLOW	Every 1.0 seconds

- **Press MENU twice** to exit.

5 **Press ▶ (PLAY)** to start playback.
Press ▶ (MULTI) at the point you want to start capturing.

- A succession of 9 screens will be captured, and playback will stop.



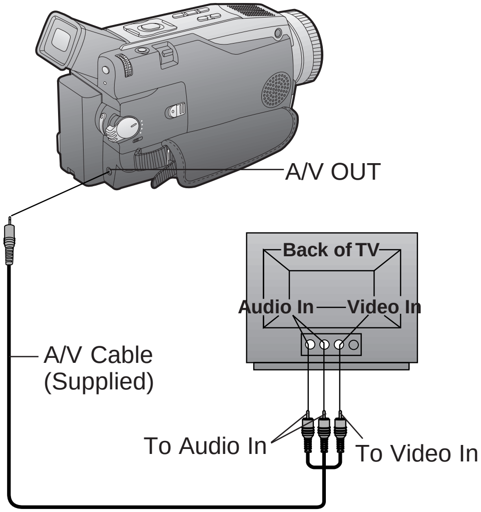
- **Press ▶ (PLAY)** to start playback.
Press ■ (STOP) to stop playback.

Note

- A Multi Image Playback screen cannot be output from the DV terminal or Digital Still Image terminal.
- A Multi screen will have slightly lower image quality.

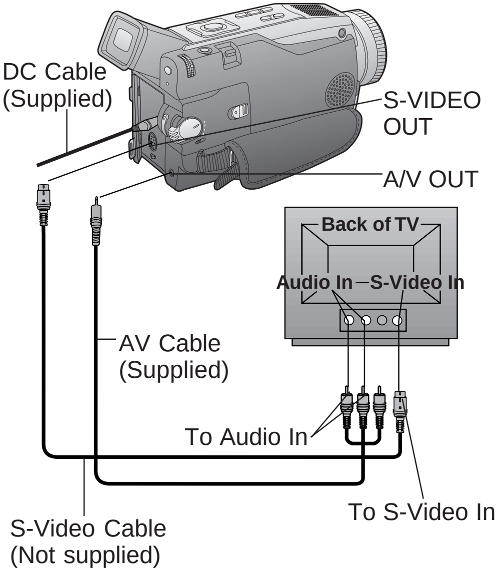
View Recording/Playback on your TV

[TV with AUDIO/VIDEO IN Jacks]


A/V OUT
Back of TV
Audio In
Video In
A/V Cable
(Supplied)
To Audio In
To Video In

[TV with S-VIDEO IN Jacks]

For best Chrominance and Luminance, use the S-Video connection if available on your TV.


DC Cable
(Supplied)
S-VIDEO
OUT
A/V OUT
Back of TV
Audio In
S-Video In
AV Cable
(Supplied)
To Audio In
To S-Video In
S-Video Cable
(Not supplied)

Before you begin

- When using S-VIDEO Connector, insert the DC Cable into the DC IN Terminal. (p. 15)

1 **Set POWER to CAMERA or VCR.**
To view what the Palmcorder is recording or to playback a tape on your TV.

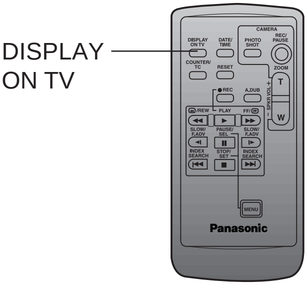
2 **Turn your TV ON and set it to LINE INPUT or S-VIDEO.**
Check your TV operating instructions for further information.

3 **Start playback or begin a recording.**

- Make sure the Palmcorder and TV are turned off while connecting.
- Please connect the A/V Cable securely.

Note

(Remote Control Only)
You can display the various EVF and LCD indications on your TV by pressing DISPLAY ON TV on the remote control. Press again to remove the indications.


DISPLAY
ON TV
CAMERA
DATE/TIME
PHOTO SHOT
REC/PAUSE
COUNTER/TC
RESET
ZOOM
T
W
REC
A.DUB
SPKR VOL
/REW
PLAY
FF/
SLOW/F.ADV
PAUSE/SEL
SLOW/F.ADV
INDEX SEARCH
STOP/SET
INDEX SEARCH
MENU
Panasonic

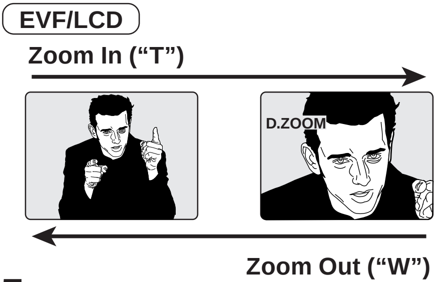
Digital Features

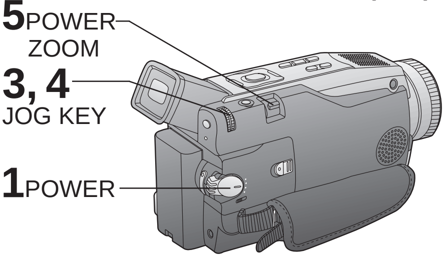
Digital Zoom

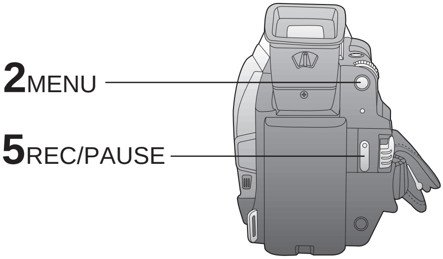
This feature is useful when you want to record close-up shots of subjects located beyond a normal zoom range of 1X to 10X magnification. With the digital zooming feature, you can select a magnification of 25X, or even up to 700X.

Note

- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.







CAMERA mode

1 **Set POWER to CAMERA.**

2 **Press MENU** to display the CAMERA MENU screen.

3 **Rotate JOG KEY** to select **D.FUNCTION**, then **press JOG KEY** to display the CAMERA FUNCTION menu screen.

4 **Rotate JOG KEY** to select **D.ZOOM**, then **press JOG KEY** to select D.ZOOM1 or D.ZOOM2.

D.ZOOM1 : from 10X to 25X
D.ZOOM2 : from 10X to 700X
OFF : Turn off D.ZOOM

- Press MENU twice to exit.

5 **Press REC/PAUSE** to start recording and press **POWER ZOOM** to zoom in or zoom out.

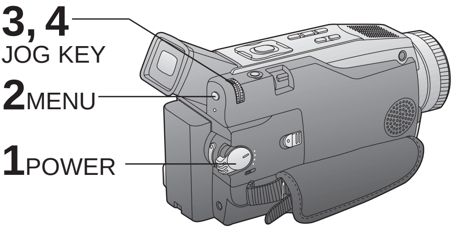
- The magnification level is always displayed in the EVF or the LCD monitor when DISPLAY is set to ON. (Menu OSD: pp. 102, 104)

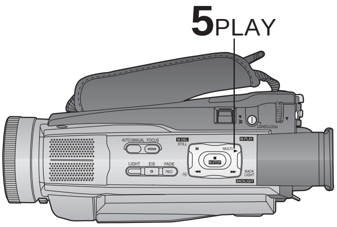
6 **Repeat steps 2~4** to select OFF to cancel this feature.

Note

- The normal optical zoom functions from 1X to 10X.
- As magnification increases, resolution significantly decreases.
- Because the image is enlarged digitally, the picture may become distorted when higher magnification levels are used.
- When the level falls below 10X, the normal zooming function will resume.
- Focus distance becomes 1.2 m (4 feet) if the lens is in full telephoto.

Digital Zoom (Continued)





VCR mode

1 **Set POWER to VCR.**

2 **Press MENU** to display the VCR MENU screen.

3 **Rotate JOG KEY** to select **PLAY FUNCTION**, then **press JOG KEY** to display the VCR PLAY FUNCTION menu screen.

4 **Rotate JOG KEY** to select **D.ZOOM**, then **press JOG KEY** to select ON.
- Press MENU twice to exit.

5 **Press ▶ (PLAY)** to start playback.
- The center portion of the image doubles in size.

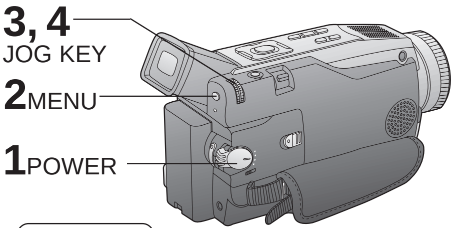
6 **Repeat steps 2~4** to select OFF to cancel this feature.

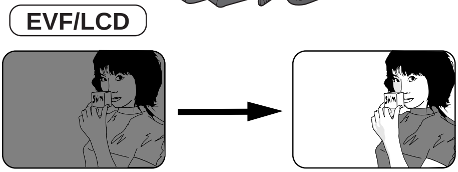
MagicPix Images

Color recording of video or still images onto the Mini DV tape in low lighting.
(pp. 43, 101)

Note

- MagicPix cannot be used with still images on the Memory Card.
  (See “Card PhotoShot” on page 48.)





1 **Set POWER to CAMERA.**

2 **Press MENU** to display the menu screen.

3 **Rotate JOG KEY** to select **D.FUNCTION**, and then **press JOG KEY** to display the CAMERA FUNCTION menu screen.

4 **Rotate JOG KEY** to select **D.FUNCTION**, and then **press JOG KEY repeatedly** to select MAGICPIX.
- Press MENU twice to exit.

5 To cancel the Digital Function, **press JOG KEY repeatedly** to select OFF.

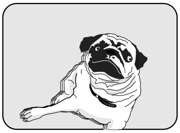
Digital Features

Dual Digital Electronic Image Stabilization System (D.E.I.S.)

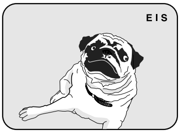
This feature helps compensate for any unintentional hand or body movement. It can be used in both the Recording and Playback (VCR) modes.

Note

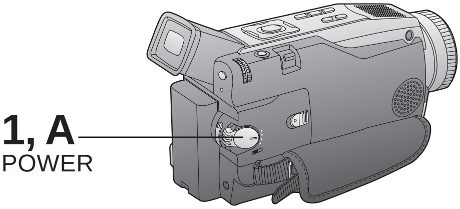
- Other Digital Functions are turned off automatically when the EIS and Digital Zoom are selected.

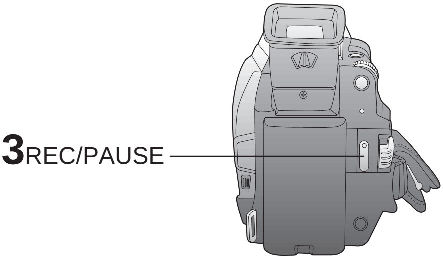


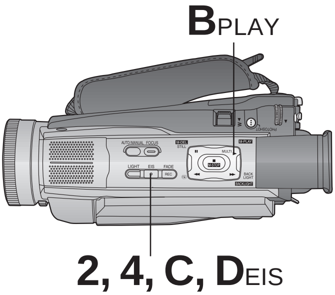
NORMAL



EIS ON







CAMERA mode

1 **Set POWER to CAMERA.**

2 **Press EIS** to stabilize the picture.
- Picture flicker may be observed when taping under fluorescent lighting conditions.
- The EIS indicator flashes when the light level is inadequate.
- Turn D.E.I.S. OFF during recording when using a tripod.

3 **Press REC/PAUSE** to start recording.

4 **Press EIS** again to cancel.
- Be sure that D.E.I.S. is turned off when not needed.

D.E.I.S. may not function when...

- Palmcorder movement is too extreme.
- Recording a subject with distinct horizontal or vertical stripes.
- Recording in low light situations.
- Recording a subject under a great amount of fluorescent light.
- Recording a scene with very fast motions.

VCR mode

A **Set POWER to VCR.**

B **Press ▶ (PLAY)** to start playback.

C **Press EIS** to stabilize the picture.

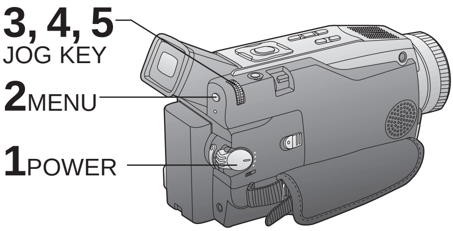
D **Press EIS** again to cancel.
- Be sure that D.E.I.S. is turned off when not needed.

Note

- When using D.E.I.S in VCR mode, the image size is slightly larger.

Other Digital Functions

Use the following features to add interest and professionalism to your recordings or playback. Select from twelve special effects.



Types of Digital Functions

MIRROR
Symmetrical image from the current camera picture.

STROBE
The recording appears as a sequence of still frames.

MOSAIC
The picture appears in a mosaic pattern.

SLIM
The picture is expanded vertically.

TRAIL
The subject being recorded creates a trail when in motion.

STRETCH
The picture is expanded horizontally.

MAGICPIX (Not available during playback)
Color recording of video or still images onto the Mini DV in low lighting. (p. 41)
- Only Manual Focus is available.

WIPE
Successive scenes are separated in a way which simulates the drawing of a curtain.

MIX
The current scene is mixed in with the following scene during scene changes.

PinP
PinP (Still image) is displayed on the Main Picture.

SEPIA (Only available during playback)
The picture is played back in sepia, a brownish color, giving it an antique look.

MONO (Monotone) (Only available during playback)
The picture is played back in black-and-white.

1. **Set POWER to CAMERA or VCR.**
2. **Press MENU** to display the menu screen.
3. **Rotate JOG KEY** to select **D.FUNCTION** in the CAMERA mode menu screen or **PLAY FUNCTION** in the VCR mode menu screen, then press **JOG KEY** to display the CAMERA FUNCTION or VCR PLAY FUNCTION menu screen.
4. **Rotate JOG KEY** to select **D.FUNCTION**, and then **press JOG KEY repeatedly** to select one of the Digital Functions listed on the left.
5. To cancel the Digital Function, **press JOG KEY repeatedly** to select OFF.

Note

- **The EIS and Digital Zoom features are turned off automatically when one of the Digital Functions listed at left is selected.**

To use the WIPE function

a. In Camera mode, set the “D.FUNCTION” item in the main menu screen to “WIPE”. (Menu OSD: p. 101)
b. Press REC/PAUSE to start recording.
c. Press REC/PAUSE to pause the recording. The last scene will be memorized.
d. Press RECORD/PAUSE to start recording again. The new scene will take the place of the memorized scene.

To use the MIX function

a. In Camera mode, set the “D.FUNCTION” item in the main menu screen to “MIX”. (Menu OSD: p. 101) Then, perform steps **b**-**d** above.

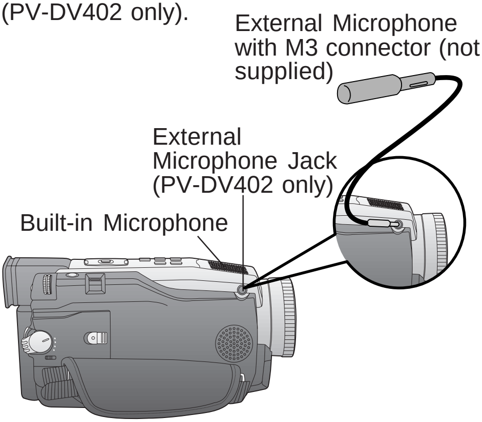
The memorized scene and the new scene will appear mixed as the scene changes from one to the other.

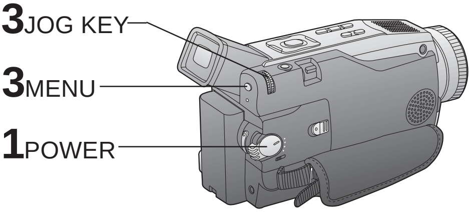
Note

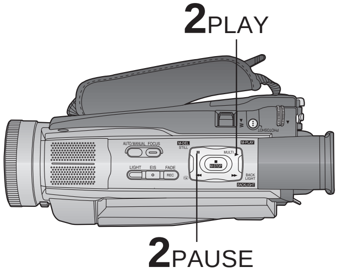
- When Photo Title is set, WIPE/MIX mode becomes Photo Title. When Photo Title is finished, Digital Function turns OFF.

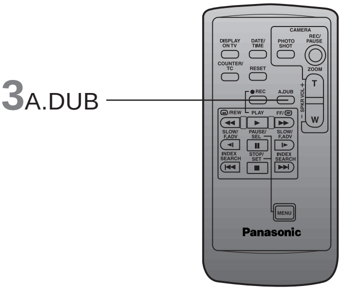
Audio Dubbing using the External (PV-DV402 only) or Built-in Microphone

The original sound can be replaced with new sound using the built-in Palmcorder microphone or an external microphone (PV-DV402 only).


External Microphone with M3 connector (not supplied)
External Microphone Jack (PV-DV402 only)
Built-in Microphone


3JOG KEY
3MENU
1POWER


2PLAY
2PAUSE


3A.DUB
CAMERA
DISPLAY ON TV
DATE/ TIME
PHOTO SHOT
REC/ PAUSE
COUNTER/ TC
RESET
ZOOM
REC
A.DUB
/REW
PLAY
FF/
SLOW/ F.ADV
PAUSE/ SEL
STOP/ SET
INDEX SEARCH
MENU
Panasonic

Before you begin

- Connect the external Microphone (if used) (PV-DV402 only).
- Turn on the Palmcorder.
- Insert a pre-recorded tape to be dubbed.

The AUDIO-REC setting in CAMERA MENU mode should be as follows:

12 bit	The original sound is recorded on ST (Stereo) 1, and the new sound will be recorded on ST (Stereo) 2.
16 bit	The original sound is replaced with the new sound.

- Select 12 bit if you do not want the original sound to be completely replaced during an audio dub.
- If you dub over a tape which has both 12 bit and 16 bit audio recordings on it, keep in mind that the original 16 bit audio portion will be completely replaced.

1 **Set POWER to VCR.**
- With the Remote Control, you can set the Palmcorder to stop automatically at a specific point on the tape. See “Memory-Stop Editing” on page 45.

2 **Press ▶ (PLAY). Then press II (PAUSE)** where you want dubbing to begin.

When using the Palmcorder only

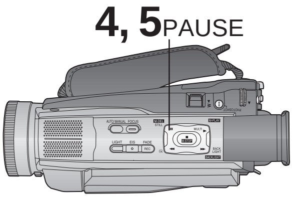
3 **Press MENU** to display the VCR mode menu screen.

Rotate JOG KEY to select **REC MODE** , then **press JOG KEY** to display the VCR REC MODE menu screen.

Rotate JOG KEY to select **AUDIO-DUB** , and then **press JOG KEY** to select ON.
- The Palmcorder will go to Stand By mode, and “A.DUB” flashes in the EVF or the LCD monitor. Go to step **4**.

When using the Remote Control only

3 **Press A.DUB** on the Remote Control.
- The Palmcorder will go to Stand By mode, and “A.DUB” flashes in the EVF or the LCD monitor. Go to step **4**.



To listen to the desired audio sound, set the AUDIO setting of the VCR mode MENU (Menu OSD: p. 103) as follows:

AUDIO: The following selections are available for 12 bit AUDIO dubbed recordings only (sound recorded in SP mode only).

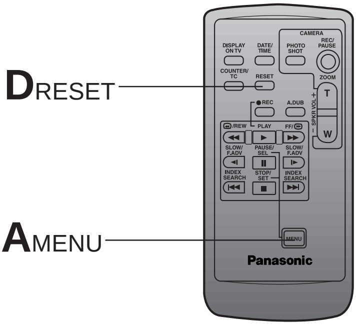
ST 1	Set this position to listen to the original sound.
ST 2	Set this position to listen to the audio dubbed sound.
MIX	Set this position to listen to both the original sound and the audio dubbed sound.

Note

- 16 bit dubbed sound completely erases the original 16 bit recorded sound.
- If you dubbed using 12 bit AUDIO recording and then selected AUDIO-MIX in the menu for playback, the sound will be stereo regardless of the AUDIO-OUT setting.
- If you recorded in LP mode, you cannot use the A.DUB feature.

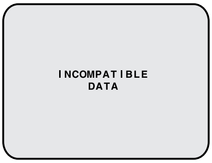
Memory-Stop Editing (Remote Control Only)

You can set an automatic Dubbing stop point.


D RESET
A MENU
DISPLAY ON TV
DATE/ TIME
CAMERA
PHOTO SHOT
REC/ PAUSE
COUNTER/ TC
RESET
ZOOM
T
W
● REC
A.DUB
SPKR VOL
/REW
PLAY
FF/
SLOW/ F.ADV
PAUSE/ SEL
SLOW/ F.ADV
INDEX SEARCH
STOP/ SET
INDEX SEARCH
MENU
Panasonic

4 **Press II (PAUSE)** to start Audio Dubbing.

- Connect the Palmcorder to the TV in order to monitor the sound. (p. 39)



INCOMPATIBLE DATA

Only NTSC (National Television Standards Committee) recorded tapes can be audio dubbed. The following screen appears if the tape was not recorded in NTSC format.

5 **Press II (PAUSE)** to stop Audio Dubbing.

- If the microphone used for dubbing gets too near the speaker of your TV, a howling noise (feedback) may occur.
- If the tape position is in or was started in a blank section, you cannot use the A.DUB feature.

A **Press MENU** to display the VCR menu screen.

B **Rotate JOG KEY** to select **DISPLAY SETTING**, and then **press JOG KEY** to display the DISPLAY SETTING menu.

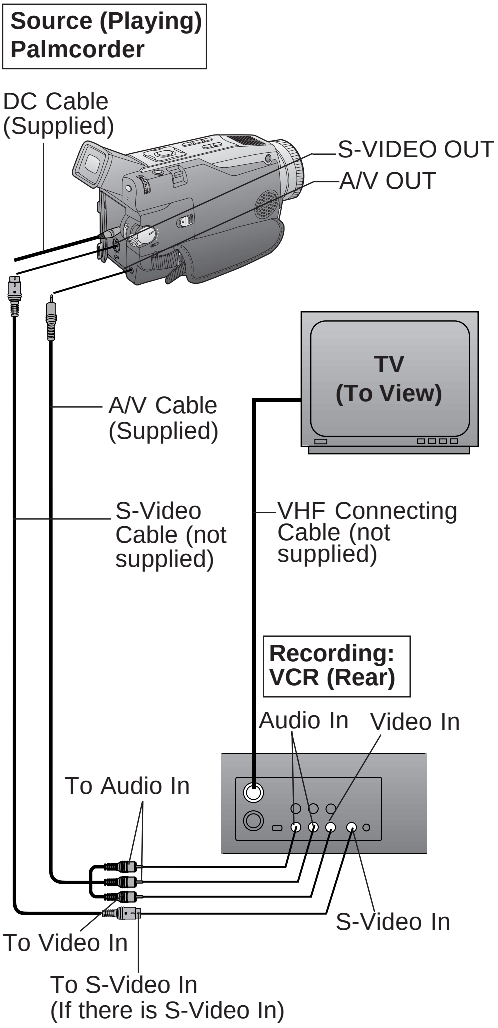
C **Rotate JOG KEY** to select **DISPLAY**, and then **press JOG KEY** to set to MEMORY.

D **Press MENU two times** to exit MENU mode. Then, **press RESET on the remote control** to reset the Counter Memory to M 0:00:00.

Now, rewind to the editing start point, and continue with steps 2-5. The tape will now stop automatically at “M 0:00:00”.

Editing Features

Copying your Tapes to S-VHS or VHS Cassette


Source (Playing) Palmcorder
DC Cable (Supplied)
S-VIDEO OUT
A/V OUT
TV (To View)
A/V Cable (Supplied)
S-Video Cable (not supplied)
VHF Connecting Cable (not supplied)
Recording: VCR (Rear)
Audio In
Video In
To Audio In
S-Video In
To Video In
To S-Video In (If there is S-Video In)

Before you begin

- Connect both Palmcorder and VCR to their power sources.
- Connect the Palmcorder to a VCR as illustrated left.
- Turn ON both units.
- **Set the recording VCR's Input Signal Selector to LINE.**
- Set the Palmcorder POWER to VCR.
- Before using S-VIDEO Connector, insert the DC Cable into the DC IN Terminal. (p. 15)

1. **Insert a pre-recorded tape** into the source (playing) Palmcorder and a blank tape, with record tab in place, into the target VCR (Recorder).
2. **Press ▶ (PLAY)** on the Palmcorder. When the tape reaches the point you want to start dubbing, **press PAUSE**.
3. **Place the VCR into REC/PAUSE mode.** (See VCR manual.)
4. **Simultaneously, press PAUSE** on both units to begin copying.
5. **Press STOP on both units** when copying is completed.

Note

- For technical reasons, dubbing a tape may reduce its quality.
- Press DISPLAY ON TV on the Palmcorder Remote Control to eliminate EVF/LCD Monitor indications.
- If the Time Code is displayed in the EVF or LCD monitor, it cannot be reset.
- Only the DATE/TIME, when displayed, will be recorded on the tape.

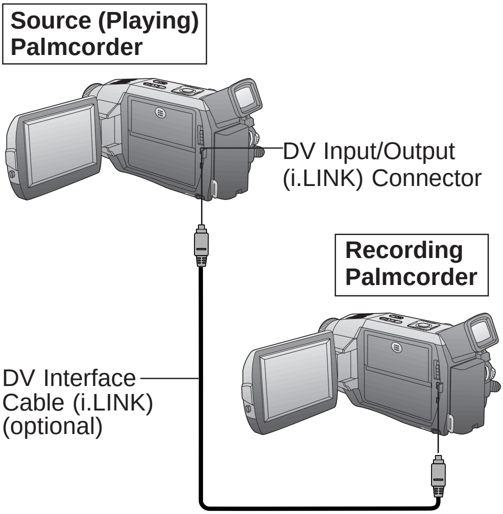
Monitor with your TV

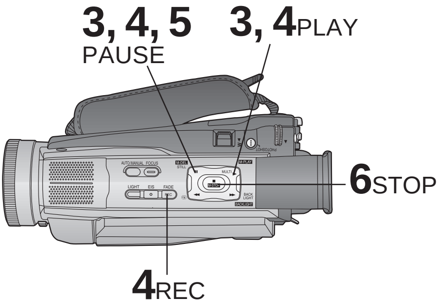
- Turn the TV ON and select its VCR channel (either CH3 or CH4).
- Set the VCR/TV Selector on the recording VCR to VCR.

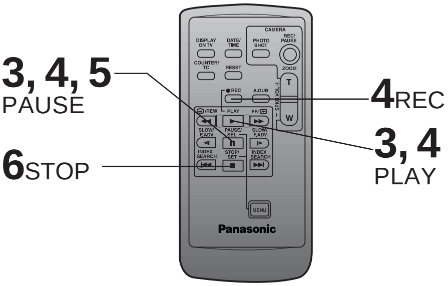
CAUTION:
Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

Copying from Digital Equipment (dubbing)

High quality digital-to-digital copying can be accomplished if both Palmcorders incorporate the DV Input/Output (i.LINK) Connector (DV Interface cable (i.LINK) is not supplied).


Source (Playing) Palmcorder
DV Input/Output (i.LINK) Connector
Recording Palmcorder
DV Interface Cable (i.LINK) (optional)


3, 4, 5 PAUSE
3, 4 PLAY
6 STOP
4 REC


3, 4, 5 PAUSE
6 STOP
4 REC
3, 4 PLAY
Panasonic

Before you begin

- Connect both Palmcorders to their power sources.
- Connect the two Palmcorders using the DV Interface cable (i.LINK) (4-pin to 4-pin).
- Turn both Palmcorders ON.

1. **Insert a pre-recorded tape** into the source (playing) Palmcorder, **and set POWER to VCR.**
2. **Insert a blank tape with the record tab** closed into the target (recording) Palmcorder **and set POWER to VCR.**
3. **Press ▶ (PLAY)** on the source Palmcorder. When the tape reaches the point you want to start dubbing, **press II (PAUSE)**.
4. **Hold down REC and press ▶ (PLAY)** on the target (recording) Palmcorder. **Press II (PAUSE)** to pause the tape at the starting point of the dub.
5. **Simultaneously, press II (PAUSE)** on both units to begin dubbing.
6. **Press ■ (STOP)** on the recording unit, and then **press ■ (STOP)** on the playing unit to end dubbing.

Note

- When two Palmcorders are used for dubbing, it is recommended that the Remote Control VCR1 or VCR2 setting be used to avoid improper-operation.
- When two Palmcorders are connected using the DV Interface cable (i.LINK) (not supplied), a Video Editing Controller cannot be used.
- Do not connect both an S-Video Cable or A/V Cable and a DV Interface Cable (i.LINK).

CAUTION:
Unauthorized exchanging and/or copying of copyrighted recordings may be copyright infringement.

Card Features

Card PhotoShot

You can record still images to a Memory Card.

Warning

- Memory Card will not work when DV Interface Cable (i.LINK) is connected.

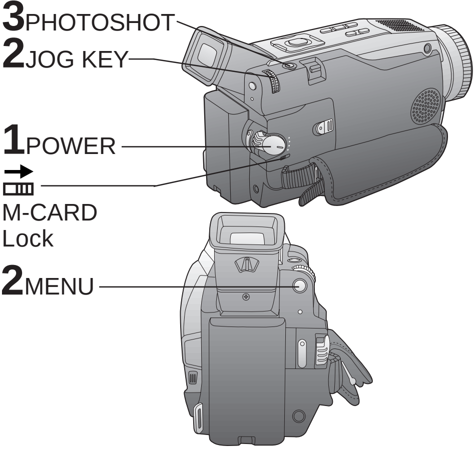


Image Resolution and Capacity (supplied 8MB Memory Card)

REC Mode	Image Resolution	Capacity
FINE	1280 x 960	Approx. 30 images
NORMAL	640 x 480	Approx. 70 images

- The number of images given for each mode applies when all images are taken in same mode.
- You can change recording modes at any time before capturing an image.
- The number of images that can be captured may differ depending on the subject. After capturing an image, the number may not decrease, or it may decrease by two. This is normal.

Note

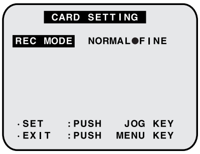
- 1280 x 960 PhotoShot image is interpolated from 640 x 480 image.
- Some artifacting, softened edges or picture noise may occur in Fine (1280 x 960) Mode.
- Progressive PhotoShot is not available when capturing to card (only tape). Therefore, 640 x 480 Progressive PhotoShot to Tape may produce better results in some circumstances, especially when capturing moving subjects.
- PhotoShot capture time for Fine Mode (1280 x 960) is approximately 20 seconds, and for Normal Mode (640 x 480) is approximately 7~10 seconds.

Before you begin

- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to OFF before inserting a Memory Card. (p. 13)

1 **Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.**
- The POWER lamp lights red.
- Be sure POWER is fully turned to M-CARD position.
- “PLAY: PUSH PLAY KEY” is displayed for 10 seconds. (p. 50)

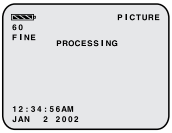
2 **Press MENU** to display CARD SETTING menu, then **press JOG KEY** to select **NORMAL** or **FINE**.



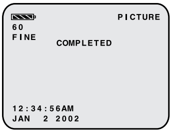
CARD SETTING
REC MODE NORMAL●FINE
·SET :PUSH JOG KEY
·EXIT :PUSH MENU KEY

- Press MENU to exit this menu.

3 **Press PHOTOSHOT** to record an image.



PICTURE
60
FINE
PROCESSING
12:34:56AM
JAN 2 2002



PICTURE
60
FINE
COMPLETED
12:34:56AM
JAN 2 2002

- The PhotoShot image is recorded to the Memory Card.
- When SHUTTER is set to ON (Menu OSD: p. 101), still pictures are recorded with a visual shutter effect and click sound. If set to OFF, the still image will be displayed only.

Warning

- While “PROCESSING” is displayed, **DO NOT turn off the Palmcorder or unplug the AC Adaptor** (supplied) because this will cause irreversible damage to the memory.

Cautions for the Memory Card

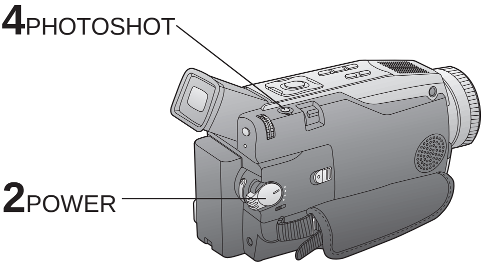
- While Memory Card data is being read, do not remove it, turn off the power, or subject unit to vibrations and/or shocks.
- Do not leave the Memory Card in a place with high temperature, a place exposed to direct sunlight, or a place where electromagnetic waves and static electricity can be generated.
- Electromagnetic waves, static electricity, malfunction of the Digital Video Palmcorder or of the Memory Card itself could erase the data recorded on it. To prevent the loss of picture data, we recommend that you make a backup copy on the computer.
- Do not bend or drop the Memory Card as this could damage it or the captured contents.
- Do not touch the connector on the rear edge of the Memory Card with your fingers and take care that no dirt, dust or water enters it.
- Do not affix other labels to the Memory Card face or back as Card insertion/removal may become impossible.

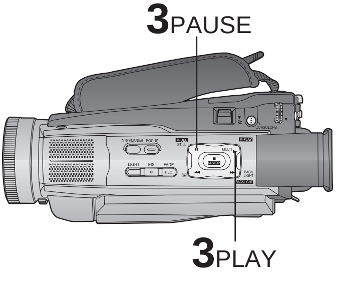
Recording images From a Tape

You can record still images from a cassette tape to a Memory Card.

Warning

- Memory Card will not work when DV Interface Cable (i.LINK) is connected.





Before you begin

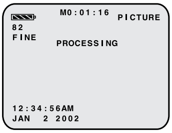
- Connect the Palmcorder to a power source. (pp. 14, 15)
- Set POWER to OFF before inserting a Memory Card. (p. 13)

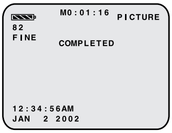
1 **Repeat steps 1 and 2 on page 48.**

2 **Set POWER to VCR.**

3 **Press ▶ (PLAY)** to start playback of the cassette tape. And then, **press ❙❙ (PAUSE)** to select an image.

4 **Press PHOTOSHOT** to record the desired image to the Memory Card.





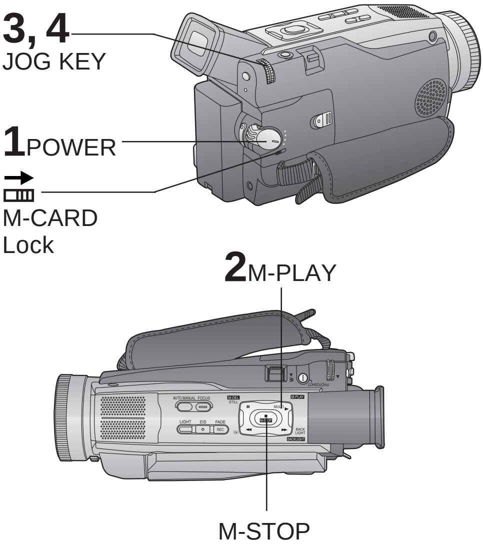
- When PHOTOSHOT is pressed in PLAY or SLOW mode, the screen goes to STOP mode.
- To playback the images of the Memory Card, see page 50.
- When Variable Speed Search is done (p. 35), this feature cannot be used.

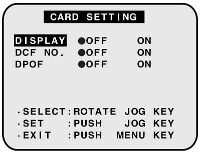
5 **Repeat steps 3~4** to record another image to the Memory Card.

Card Features

Playback Still Images

You can view the images on the Memory Card.





```
CARD SETTING

DISPLAY  ●OFF     ON
DCF NO.  ●OFF     ON
DPOF     ●OFF     ON

·SELECT:ROTATE  JOG  KEY
·SET   :PUSH    JOG  KEY
·EXIT  :PUSH    MENU KEY
```

Note

- If the file number is changed, the Palmcorder cannot read the file data.
- This product is compliant with DCF (Design rule for Camera File System). Images saved on the Memory Card using other Digital Still Cameras that are compliant with DCF can be viewed on this product.

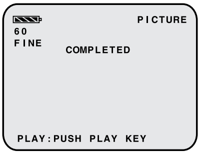
Warning

- While "PLEASE WAIT" is displayed, **DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied)** because this will cause irreversible damage to the memory.

Before you begin

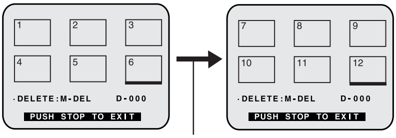
- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

1 **Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.**
- "PLAY: PUSH PLAY KEY" is displayed for 10 seconds.



```
                  PICTURE
60
FINE     COMPLETED

PLAY:PUSH PLAY KEY
```

2 **Press ▶ (M-PLAY)** to display the Multi playback screen.
- "PLEASE WAIT" appears on-screen.
- Rotate JOG KEY to scroll through Multi image screen pages (6 images per page) and select an image.
- The selected image is underlined in green.



```
1   2   3
4   5   6
·DELETE:M-DEL   D-000
PUSH STOP TO EXIT
```

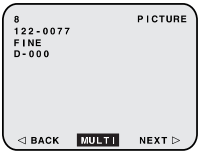
```
7   8   9
10  11  12
·DELETE:M-DEL   D-000
PUSH STOP TO EXIT
```

"PLEASE WAIT" is displayed.

- Press MENU to display CARD SETTING menu screen.
- Press ■ (M-STOP) to return to the Card PhotoShot REC Mode. (p. 48)

3 **Press JOG KEY** to display the selected image as a full-size screen.
- "PLEASE WAIT" appears on-screen.

4 **Rotate JOG KEY** to select **BACK** (previous image), **MULTI** (Multi Image screen), or **NEXT** (next image).



```
8                 PICTURE
122-0077
FINE
D-000

◁ BACK   MULTI   NEXT ▷
```

- **Press ■ (M-STOP)** to return to the Multi Playback screen.

Delete Specific Images

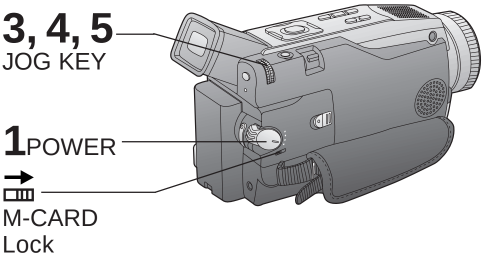
You can delete unwanted images and increase the remaining image memory.

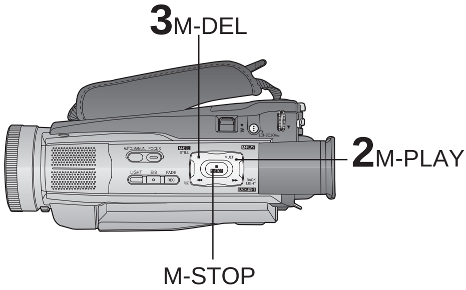
Warning:
Once deleted, images cannot be restored.

DELETE PAGE
Delete specific images from a page.

DELETE ALL
Delete all images. (p. 52)

FORMAT
Delete all data. (p. 53)


3, 4, 5
JOG KEY
1POWER
M-CARD
Lock


3M-DEL
2M-PLAY
M-STOP

Warning

- While deleting image, **DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied)** because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

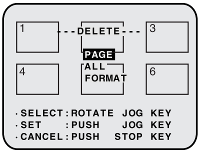
Before you begin

- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

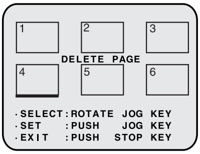
1 **Slide the M-CARD Lock Switch to unlock, then set POWER to M-CARD.**
- "PLAY: PUSH PLAY KEY" is displayed for 10 seconds.

2 **Press ▶ (M-PLAY)** to display the Multi playback screen.
- "PLEASE WAIT" appears on-screen.

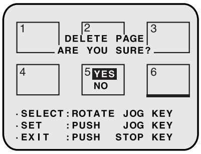
3 **Press ❙❙ (M-DEL)** to display the DELETE menu, then **rotate and press JOG KEY** to select PAGE.


1
DELETE
3
PAGE
ALL
FORMAT
4
6
· SELECT : ROTATE JOG KEY
· SET : PUSH JOG KEY
· CANCEL : PUSH STOP KEY

- DELETE PAGE menu is displayed.


1
2
3
DELETE PAGE
4
5
6
· SELECT : ROTATE JOG KEY
· SET : PUSH JOG KEY
· EXIT : PUSH STOP KEY

4 **Rotate and press JOG KEY** to select and set the image to be deleted.
- The selected image is underlined in pink.


1
2
3
DELETE PAGE
ARE YOU SURE?
4
5
YES
NO
6
· SELECT : ROTATE JOG KEY
· SET : PUSH JOG KEY
· EXIT : PUSH STOP KEY

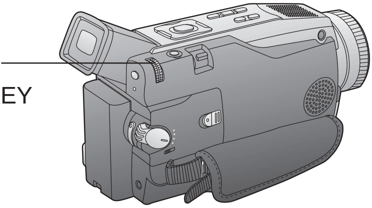
5 **Rotate JOG KEY** to select YES, and **press JOG KEY** to delete the selected image.
- To cancel delete, press ■ (M-STOP) or rotate and press JOG KEY to select NO.
- "PLEASE WAIT" appears on-screen during deletion.
- To delete other images, repeat steps **4**~**5**.

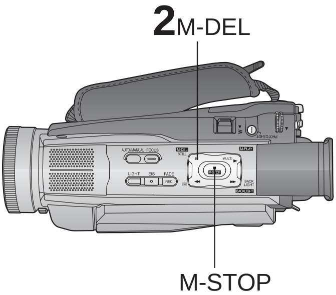
Delete All Image Pages

You can delete all images from the Memory Card easily with this operation.

Warning:

Once deleted, images cannot be restored.





Warning

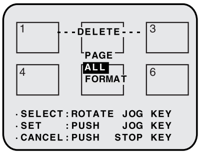
- While deleting image, **DO NOT turn off the Digital Video Camcorder or unplug the AC Adaptor (supplied)** because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

Before you begin

- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

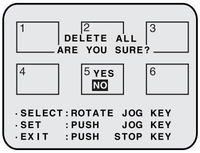
1 **Do steps 1 and 2 on page 51.**

2 **Press ❚❚ (M-DEL)** to display the DELETE menu. Then, **rotate and press JOG KEY** to select ALL.



·SELECT : ROTATE JOG KEY
·SET : PUSH JOG KEY
·CANCEL : PUSH STOP KEY

- The screen below is displayed.
- To cancel delete, press ■ (M-STOP) or rotate and press JOG KEY to select NO.

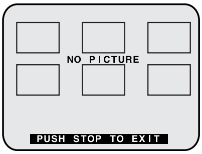


DELETE ALL
ARE YOU SURE?

·SELECT : ROTATE JOG KEY
·SET : PUSH JOG KEY
·EXIT : PUSH STOP KEY

3 **Rotate and press JOG KEY** to select YES.

- “PLEASE WAIT” is displayed on the screen, and then “NO PICTURE” is displayed.



NO PICTURE

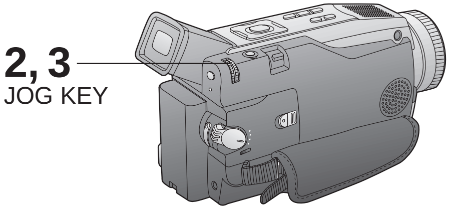
PUSH STOP TO EXIT

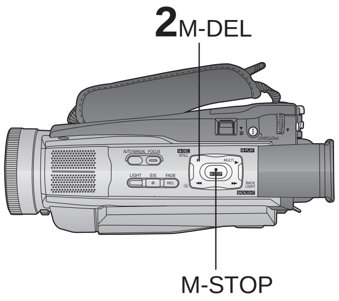
- Press ■ (M-STOP) to return to the Card PhotoShot REC Mode screen. (p. 48)

Format the Memory Card

You can easily format your Memory Card using this operation.

Warning:
Formatting permanently removes all image data.





Warning

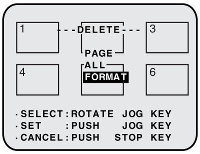
- While deleting image, **DO NOT turn off the Palmcorder or unplug the AC Adaptor (supplied)** because this will cause irreversible damage to the memory, resulting in reduced image storage capacity.

Before you begin

- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

1 **Do steps 1 and 2 on page 51.**

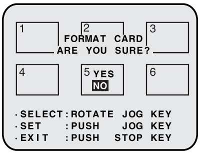
2 **Press ❙❙ (M-DEL)** to display the DELETE menu, then **rotate and press JOG KEY** to select FORMAT .



DELETE
PAGE
ALL
FORMAT

·SELECT:ROTATE JOG KEY
·SET :PUSH JOG KEY
·CANCEL:PUSH STOP KEY

- The screen below is displayed.
- To cancel format, press ■ (M-STOP) or rotate and press JOG KEY to select NO.

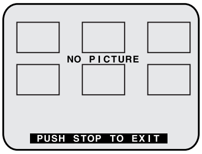


FORMAT CARD
ARE YOU SURE?
YES
NO

·SELECT:ROTATE JOG KEY
·SET :PUSH JOG KEY
·EXIT :PUSH STOP KEY

3 **Rotate and press JOG KEY** to select YES .

- “PLEASE WAIT” is displayed on the screen as all image data is deleted from Memory Card. Deletion is complete when “NO PICTURE” is displayed.



NO PICTURE

PUSH STOP TO EXIT

- Press ■ (M-STOP) to return to the Card PhotoShot REC Mode screen. (p. 48).

Card Features

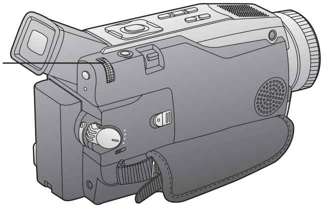
DPOF Setting

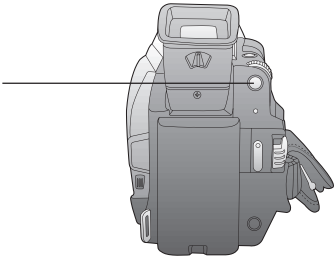
You can select the images to be printed, the number of prints, and other print-related information (DPOF setting) on a Memory Card. “DPOF” stands for Digital Print Order Format, and since printing data can be added to images on the Memory Card, the Memory Card can be used with any system that provides DPOF.

VARIABLE:
You can select images recorded on the Memory Card and set the number of prints desired.

ALL1:
The number of prints recorded on the Memory Card is collectively set to 1.

ALL0:
The currently set number of prints is set to 0.

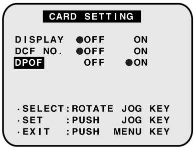




Before you begin

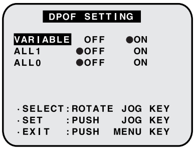
- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

1. **Do steps 1 and 2 on page 51.**
2. **Press MENU** to display the CARD SETTING menu screen.
3. **Rotate JOG KEY** to select **DPOF**, then **press JOG KEY** to select ON.

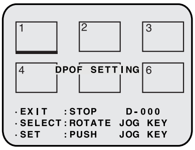


```
      CARD SETTING

DISPLAY  ●OFF    ON
DCF NO.  ●OFF    ON
DPOF       OFF  ●ON

·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

4. **Rotate JOG KEY** to select **VARIABLE**, then **press JOG KEY** to select ON.
   - DPOF SETTING menu screen is displayed on the screen.

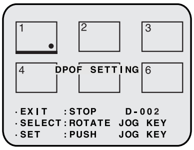


```
      DPOF SETTING

VARIABLE   OFF   ●ON
ALL1      ●OFF    ON
ALL0      ●OFF    ON

·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```



```
1        2        3
4   DPOF SETTING  6
·EXIT  :STOP      D-000
·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
```

5. **Rotate and press JOG KEY** to select the picture.
   - The selected image is underlined in green.
   - The cursor moves to “D-000”.
6. **Rotate and press JOG KEY** to set the number of prints.
   - The “●” mark is displayed. The “●” mark indicates pictures for which 1 or more prints have been set.
   - When printing one each of all the pictures, select “ALL1”; if not all the pictures are printed, select “ALL0”.



```
1        2        3
4   DPOF SETTING  6
·EXIT  :STOP      D-002
·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
```

7. **Repeat steps 5 and 6** to set the other pictures.

Print mark is based on DPOF (Digital Print Order Format).

Transferring Your Images (Windows)

You can transfer images from your Palmcorder tape to your PC (Personal Computer).

System Requirements (for Palmcorder USB Device Driver/PHOTOVU MPEG4 Movie Messenger System and ArcSoft Software)

- IBM PC/AT or compatible
- Pentium II Processor: 266 MHz or more
- RAM: 64 MB or more
- CD-ROM drive (for installation)
- Mouse or other pointing device
- Windows 95 (for ArcSoft Software only)/98SE/Me/2000/XP preinstalled PC with USB port
- 2 MB minimum available hard disk space (for Palmcorder USB Device Driver)
- 15 MB minimum available hard disk space (for PHOTOVU/MPEG4 Movie Messenger System)
- 10 MB minimum available hard disk space (for Palmcorder File Converter)
- Minimum 120 MB of free hard disk space for Motion picture transfer from DV tape to PC (for PHOTOVU/MPEG4 Movie Messenger System)
- 235 MB minimum available hard disk space (for ArcSoft Software)
- High color (16 bit) or more (for ArcSoft Software)
- Video card that supports 16 bit color at 800 x 600 monitor resolution (for Palmcorder USB Device Driver, PHOTOVU/MPEG4 Movie Messenger System, and Palmcorder File Converter)
- Microsoft Windows Media Player 6.4 (for Windows 2000 users: Microsoft Windows Media Player 7.1) or later (for PHOTOVU/MPEG4 Movie Messenger System)

  * If Windows Media Player 6.4 (for Windows 2000 users: Windows Media Player 7.1) or later is not installed in your PC, Please download and install Windows Media Player from the Microsoft Home Page: http://www.microsoft.com/

***Satisfy the conditions recommended by Microsoft for Windows XP.**

Palmcorder USB Device Driver/Web Camera/SD Drive

Install Palmcorder USB Device Driver.
You can transfer motion/still picture to your PC using Movie Messenger, Web Camera or SD Drive via USB. Using this driver allows data communication between the Memory Card and PC.

PHOTOVU/MPEG4 Movie Messenger System

Install PHOTOVU/MPEG4 Movie Messenger System.
You can transfer motion/still pictures to your PC from a Mini DV Tape via USB and i.LINK.

Palmcorder File Converter

Install File Converter.
You can convert the JPEG data of your PC into the DCF (Design rule for Camera File System) data, and transfer this data to your Palmcorder via USB. Using this driver allows data communication between the Memory Card and PC.

ArcSoft Software*

Install ArcSoft Software 2002.

PhotoImpression 3.0:	Easy-to-use photo editing program to edit, enhance, retouch or add special effects to any image. Also offers creative solutions for making greeting cards, and calendars.
Panorama Maker 3.0:	Easy-to-use photo-stitching program seamlessly combines multiple photos into a single panoramic picture.
PhotoPrinter 2000 Pro:	Program to layout images in multiple sizes quickly and effortlessly to create a collage or photo album, all on one page.
PhotoBase 3.0:	Create albums of image, video, audio, and other electronic files for easy viewing, retrieval, and management.

You can edit still picture using the software.

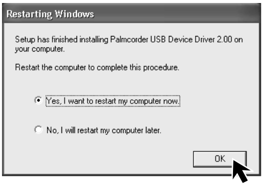
*** For information on ArcSoft Software:**
TEL : 1-510-440-9901 (U.S.A.)
FAX : 1-510-440-1270 (U.S.A.)
Web Site : www.arcsoft.com
E-mail : support@arcsoft.com

Transferring Your Images (Windows)

Software Installation (Windows 95 (for ArcSoft Software only)/ 98SE/Me/2000/XP)

Caution

- Please install Palmcorder USB Device Driver first before connecting the Palmcorder and your PC using USB Cable. Once Palmcorder USB Device Driver is installed, you must restart your computer for installation to take effect.
- Restarting the computer not only applies to Driver installation, but must be done whenever “Restarting Windows” is displayed after software or driver install/uninstall.



Setup has finished installing Palmcorder USB Device Driver 2.00 on your computer.

Restart the computer to complete this procedure.

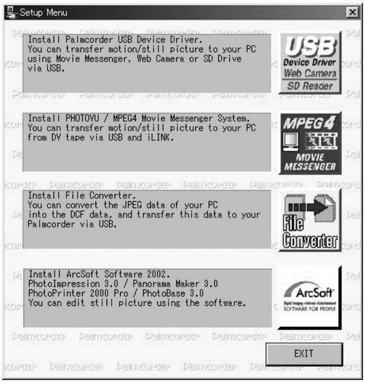
● Yes, I want to restart my computer now.

○ No, I will restart my computer later.

1 **Turn on the PC (Personal Computer) and start up Windows.**

2 **Insert the supplied Software CD-ROM** into the CD-ROM drive.

3 **Click the icon** you want to install. Please install the Palmcorder USB Device Driver first and follow the instructions listed under “Caution”.



Install Palmcorder USB Device Driver.
You can transfer motion/still picture to your PC using Movie Messenger, Web Camera or SD Drive via USB.

Install PHOTOVU / MPEG4 Movie Messenger System.
You can transfer motion/still picture to your PC from DV tape via USB and iLINK.

Install File Converter.
You can convert the JPEG data of your PC into the DCF data, and transfer this data to your Palmcorder via USB.

Install ArcSoft Software 2002.
PhotoImpression 3.0 / Panorama Maker 3.0
PhotoPrinter 2000 Pro / PhotoBase 3.0
You can edit still picture using the software.

Palmcorder USB Device Driver
- **For Movie Messenger**
- **For Web Camera**
- **For SD Drive** : **Click**

PHOTOVU/MPEG4 Movie Messenger System : **Click**

Palmcorder File Converter : **Click**

ArcSoft Software : **Click**

4 Follow the instructions as they appear on your PC screen.

Note

- If a window does not appear automatically, click the “Start” button on your desktop and then click “Run”. When the Run box is open, type in “D:\InstMenu.exe” where “D:” is the drive letter of your CD; then click “OK”.
- If you attempt to install the next Software before the previous Software installation is completed, “Error” may appear. In this case, click [OK] and install the next Software from the menu.

Transferring Your Images (Windows)

Notes on PHOTOVU/MPEG4 Movie Messenger System operation

- For PHOTOVU/MPEG4 Movie Messenger System, do not connect the i.LINK and USB terminals to the Palmcorder at the same time.
- Make sure Palmcorder power is not shut off during use as your PC system may become unstable. Therefore, the AC Adaptor should be used as the power source. (Be especially careful when recording in M-CARD or CAMERA mode as the power eventually shuts off automatically if a tape is inserted.)
- For PHOTOVU/MPEG4 Movie Messenger System, if the play, stop, fast forward, and rewind functions are operated using the Palmcorder buttons, the image may not be captured properly. Use Palmcorder Operation Buttons displayed on the PC screen.

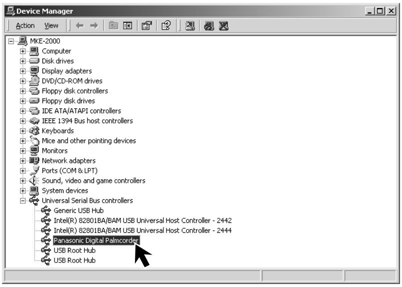
Verifying the driver (Windows 98SE/Me/2000/XP)

Note

- Verify the driver while Palmcoder is connected to the computer.

PHOTOVU/MPEG4 Movie Messenger System (VCR Mode)

[This screen is an example (Windows 2000)]

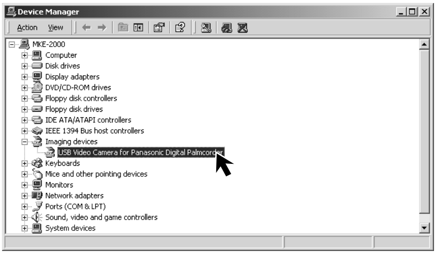

Device Manager
Action
View
MKE-2000
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Floppy disk controllers
Floppy disk drives
IDE ATA/ATAPI controllers
IEEE 1394 Bus host controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Ports (COM & LPT)
Sound, video and game controllers
System devices
Universal Serial Bus controllers
Generic USB Hub
Intel(R) 82801BA/BAM USB Universal Host Controller - 2442
Intel(R) 82801BA/BAM USB Universal Host Controller - 2444
Panasonic Digital Palmcorder
USB Root Hub
USB Root Hub

1 **Click “Start,” “Settings,” and “Control Panel.”**

2 **Double-click on “System”, verify [Panasonic Digital Palmcorder] is displayed in [Universal Serial Bus controllers] of [Device Manager].**

Palmcorder USB Device Driver/Web Camera (CAMERA Mode)

[This screen is an example (Windows 2000)]


Device Manager
Action
View
MKE-2000
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Floppy disk controllers
Floppy disk drives
IDE ATA/ATAPI controllers
IEEE 1394 Bus host controllers
Imaging devices
USB Video Camera for Panasonic Digital Palmcorder
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Ports (COM & LPT)
Sound, video and game controllers
System devices

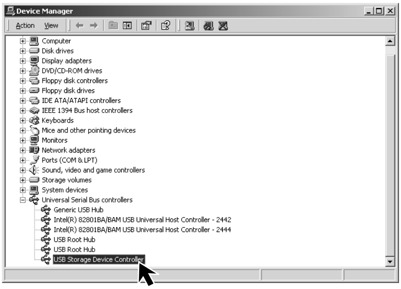
1 **Click “Start,” “Settings,” and “Control Panel.”**

2 **Double-click on “System”, verify [USB Video Camera for Panasonic Digital Palmcorder] is displayed in [Imaging Device] of [Device Manager].**

Transferring Your Images (Windows)

Palmcorder USB Device Driver/SD Drive, Palmcorder File Converter (M-CARD Mode)

[This screen is an example (Windows 2000)]


Device Manager
Action View
Computer
Disk drives
Display adapters
DVD/CD-ROM drives
Floppy disk controllers
Floppy disk drives
IDE ATA/ATAPI controllers
IEEE 1394 Bus host controllers
Keyboards
Mice and other pointing devices
Monitors
Network adapters
Ports (COM & LPT)
Sound, video and game controllers
Storage volumes
System devices
Universal Serial Bus controllers
Generic USB Hub
Intel(R) 82801BA/BAM USB Universal Host Controller - 2442
Intel(R) 82801BA/BAM USB Universal Host Controller - 2444
USB Root Hub
USB Root Hub
USB Storage Device Controller

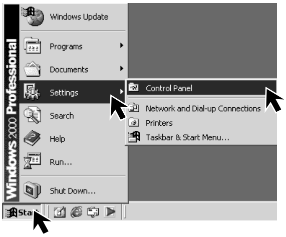
1 **Click "Start," "Settings," and "Control Panel."**

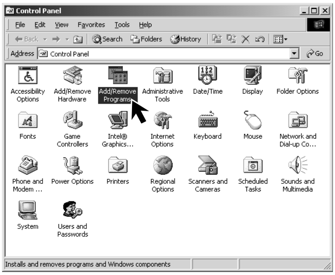
2 **Double-click on "System", verify [USB Storage Device Controller]* is displayed in [Universal Serial Bus controllers] of [Device Manager].**

*** If you are using Windows 98SE, [MATSUSHITA USB Storage Device Controller] will be displayed.**

Uninstalling Application Software

[This screen is an example (Windows 2000)]


Windows 2000 Professional
Windows Update
Programs
Documents
Settings
Search
Help
Run...
Shut Down...
Control Panel
Network and Dial-up Connections
Printers
Taskbar & Start Menu...
Start

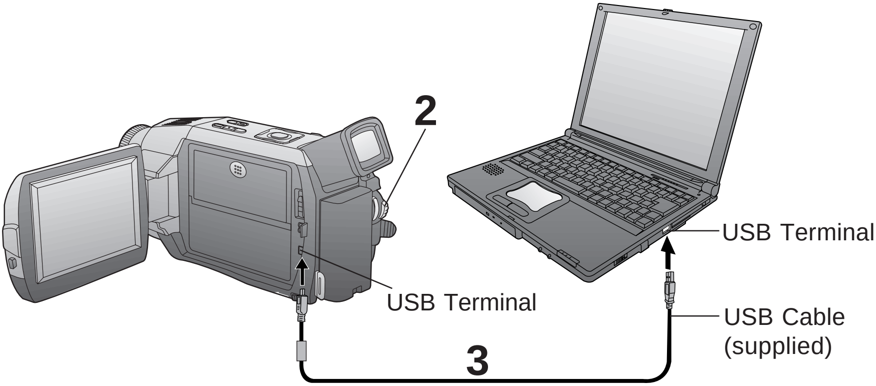

Control Panel
File Edit View Favorites Tools Help
Back Search Folders History
Address Control Panel
Go
Accessibility Options
Add/Remove Hardware
Add/Remove Programs
Administrative Tools
Date/Time
Display
Folder Options
Fonts
Game Controllers
Intel® Graphics...
Internet Options
Keyboard
Mouse
Network and Dial-up Co...
Phone and Modem ...
Power Options
Printers
Regional Options
Scanners and Cameras
Scheduled Tasks
Sounds and Multimedia
System
Users and Passwords
Installs and removes programs and Windows components

1 **Click "Start," "Settings," and "Control Panel."**

2 **Double-click on "Add/Remove Programs" in the "Control Panel."**

3 **Select the application software** you want to remove, and then **click [Add/Remove]**.

Connection (for PHOTOVU/MPEG4 Movie Messenger System)



1 **Turn on your PC.**

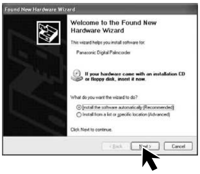
2 **Set the Palmcorder POWER to VCR.**

For Windows XP users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).

- “CAPTURE” appears in the EVF or the LCD monitor.
- The “Found New Hardware Wizard” screen of Windows is displayed.
  The following message ❷ is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000.
  Click [Continue Anyway] and proceed.
  Follow the instructions as they appear on your PC screen.

❶



Found New Hardware Wizard

Welcome to the Found New Hardware Wizard

This wizard helps you install software for:

Panasonic Digital Palmcorder

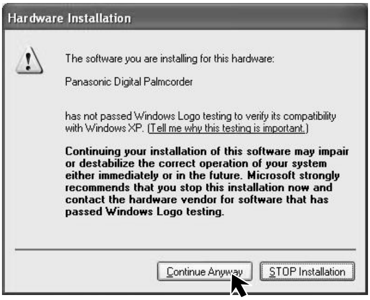
If your hardware came with an installation CD or floppy disk, insert it now.

What do you want the wizard to do?

◉ Install the software automatically (Recommended)
○ Install from a list or specific location (Advanced)

Click Next to continue.

❷



Hardware Installation

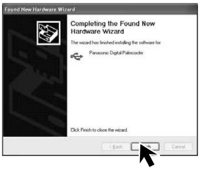
The software you are installing for this hardware:

Panasonic Digital Palmcorder

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

❸



Found New Hardware Wizard

Completing the Found New Hardware Wizard

The wizard has finished installing the software for:

Panasonic Digital Palmcorder

Click Finish to close the wizard.

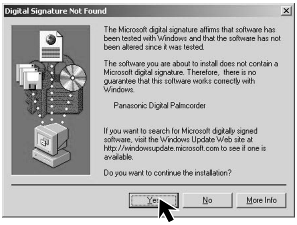
Note

- For extended use, the AC Adaptor should be used as a power source.

For Windows 2000 users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).

- “CAPTURE” appears in the EVF or the LCD monitor.
- The “Found New Hardware” screen of Windows is displayed.
- When the Palmcorder and PC (with Windows 2000) are connected via USB, a message, such as the one below, is displayed.
  The following message is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000.
  Click [Yes] and proceed.



The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

Panasonic Digital Palmcorder

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?

Note

- For extended use, the AC Adaptor should be used as a power source.

For Windows 98SE/Me users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).

- “CAPTURE” appears in the EVF or the LCD monitor.

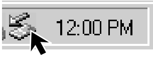
Note

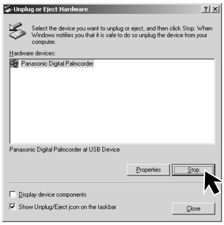
- For extended use, the AC Adaptor should be used as a power source.

To disconnect USB Cable safely (Windows 2000/XP)

If USB Cable is disconnected while computer is on, error message may appear. In such a case click [OK] and close the dialog box. By following the steps you can disconnect the cable safely.

[This screen is an example (Windows 2000)]





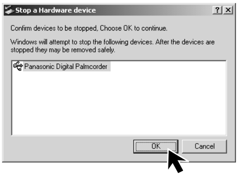
Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.

Panasonic Digital Palmcorder

Panasonic Digital Palmcorder at USB Device

☐ Display device components

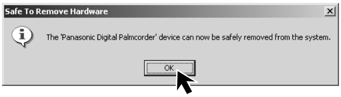
☑ Show Unplug/Eject icon on the taskbar



Confirm devices to be stopped, Choose OK to continue.

Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely.

Panasonic Digital Palmcorder



The 'Panasonic Digital Palmcorder' device can now be safely removed from the system.

1 **Double-click the icon in the task tray.**

2 **Select [Panasonic Digital Palmcorder] and click [Stop].**

3 **Verify [Panasonic Digital Palmcorder] is selected and click [OK].**

4 **Click [OK].**

- You can safely disconnect the cable.

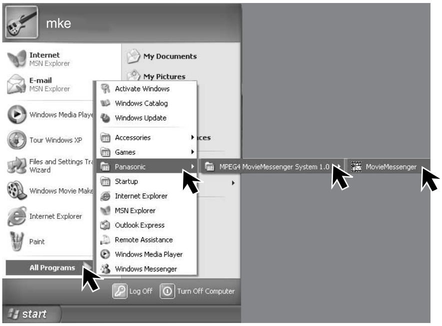
Note

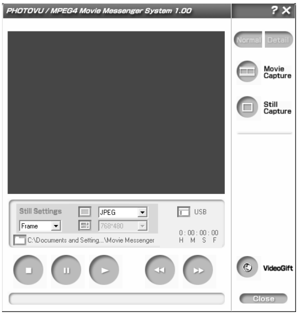
- Some OS, such as Windows 98SE or Me, may not show the icon indication that you may safely disconnect in task tray. (OS may be set not to show) Close PHOTOVU/MPEG4 Movie Messenger System, then disconnect the USB Cable.

PHOTOVU/MPEG4 Movie Messenger System

Running the PHOTOVU/ MPGE4 Movie Messenger System*

* **PHOTOVU**: You can transfer Still images from your Palmcorder tape to a PC.
MPEG4 Movie Messenger System:
You can transfer Motion images from your Palmcorder tape to a PC.


mke
Internet
MSN Explorer
E-mail
MSN Explorer
Windows Media Player
Tour Windows XP
Files and Settings Transfer Wizard
Windows Movie Maker
Internet Explorer
Paint
All Programs
My Documents
My Pictures
Activate Windows
Windows Catalog
Windows Update
Accessories
Games
Panasonic
Startup
Internet Explorer
MSN Explorer
Outlook Express
Remote Assistance
Windows Media Player
Windows Messenger
MPEG4 MovieMessenger System 1.0
MovieMessenger
Log Off
Turn Off Computer
start


PHOTOVU / MPEG4 Movie Messenger System 1.00
? ✕
Normal
Detail
Movie Capture
Still Capture
Still Settings
JPEG
Frame
768*480
USB
0 : 00 : 00 : 00
H M S F
C:\Documents and Setting...\Movie Messenger
VideoGift
Close

Before you begin

- Insert a recorded tape. (p. 11)

1 **Set Palmcorder POWER to VCR.**

2 **Connect the Palmcorder to your PC using the USB Cable (supplied) or DV Interface Cable (i.LINK) (not supplied).** (pp. 59, 60, 73)

3 **Click on “Start,” “(All) Programs,” “Panasonic,” “MPEG4 MovieMessenger System 1.00,” then “MovieMessenger.”**

4 **“PHOTOVU/MPEG4 MovieMessenger System 1.00” is opened.**

Note

Refer to Help on program for information about application operations and Error messages.

While PHOTOVU/MPEG4 Movie Messenger System is running, do not perform the following operations...

The PC system may become unstable.

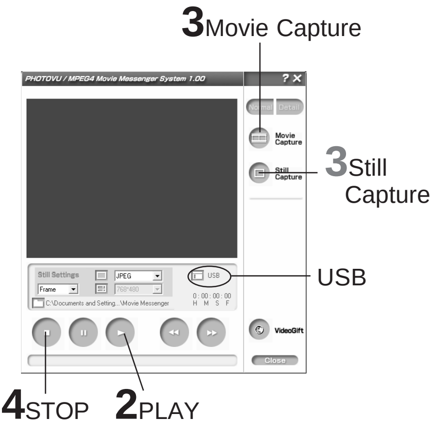
- Change the screen area or color pallet in the Display Properties window.
- Turn the Palmcorder power switch ON or OFF while connecting the Palmcorder to your PC using the USB Cable or DV Interface Cable (i.LINK).
- Change the Palmcorder power switch (VCR/CAMERA).
  *You must first close the application.
- Connect/disconnect the DV Interface Cable (i.LINK).
- Connect/disconnect the USB Cable.

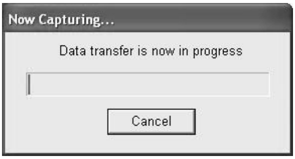
Using Tape Image Data (USB)

By connecting the Palmcorder and PC with the USB Cable, you can transfer Motion images and Still images saved on the DV Tape directly to your PC.

Note

- Detail mode cannot be used with a USB connection.
- Deactivate your PC ScreenSaver or this application may shutdown during image capture.


3 Movie Capture
3 Still Capture
USB
4 STOP
2 PLAY
PHOTOVU / MPEG4 Movie Messenger System 1.00
Normal
Detail
Movie Capture
Still Capture
Still Settings
JPEG
Frame
768*480
USB
C:\Documents and Setting...\Movie Messenger
0 : 00 : 00 : 00
H M S F
VideoGift
Close



Now Capturing...

Data transfer is now in progress

To capture Still images

3 **Click on [Still Capture]** at the point you wish to capture an image.

- Repeat step **3** to continue capturing images.
- Captured Still images are saved to the PC, and you can playback the saved images on the View Manager. (p. 63)

Before you begin

- Insert a recorded tape. (p. 11)
- Make Palmcorder-PC connections. (pp. 59, 60)
- Turn your PC on. (p. 59)
- Set Palmcorder POWER to VCR.

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

Note

- When the USB Cable is connected, the input display will automatically become USB. If it is not USB, please confirm the connection. Then, close and restart the software.

2 **Click ▶ (PLAY) on PC screen** to playback the DV tape.

- The playback screen cannot be viewed on the PC. Please use the LCD monitor on the Palmcorder for confirmation.

To capture Motion images

3 **Click on [Movie Capture]** at the start point you wish to capture a Motion image.

- “Now capturing a movie” is displayed.

4 **Click STOP** to end capture.

- “Now Searching...” is displayed.
- The DV Tape is rewound to the point at which the capture was started. The Motion image is then transferred to the PC.
- “Data transfer is now in progress” is displayed on the PC screen.
- The maximum capture time is approx. 30 seconds. Capture stops automatically at the end of 30 seconds.

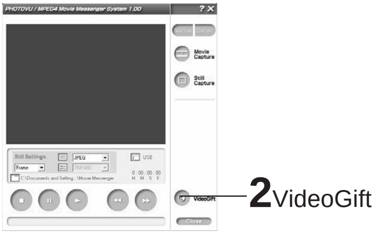
Note

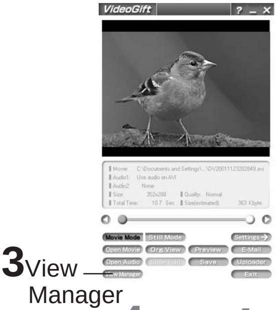
- Motion images cannot be captured if data contains the following...
  - A change between 12 bit and 16 bit.
  - A change between SP and LP mode.
- During transfer to the PC, the Motion images will not be displayed on the PC screen.
- Transfer takes from about 30 to 50 seconds for every 1 second of the Motion image when using USB connection.

5 To capture other Motion images, repeat steps **3**~**4**.

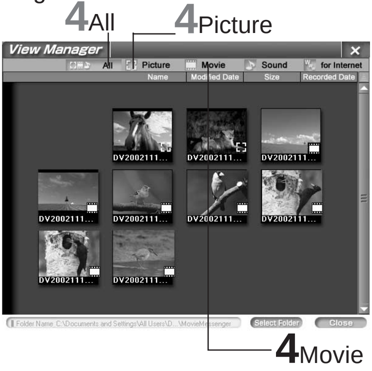
Playing back the saved Motion and Still images

You can play back the saved Motion images and Still images (p. 62) for confirmation.


PHOTOVU / MPEG4 Movie Messenger System 1.00
Normal
Detail
Movie Capture
Still Capture
Still Settings
JPEG
Frame
768*480
USB
0 : 00 : 00 : 00
H M S F
C:\Documents and Setting...\Movie Messenger
VideoGift
Close
2VideoGift


VideoGift
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
3View Manager

Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: None
Size: 352x288 Quality: Normal
Total Time: 10.7 Sec Size(estimated): 363 Kbyte


4All
4Picture
View Manager
All
Picture
Movie
Sound
for Internet
Name
Modified Date
Size
Recorded Date
DV2002111...
Select Folder
Close
4Movie

Folder Name: C:\Documents and Settings\All Users\D...\MovieMessenger

All:
Still image, Motion image and Sound data are displayed.

Picture:
Still image data (*.BMP, *.JPG) is displayed.

Movie:
Motion Image data (*.AVI, *.WMV) is displayed.

Sound:
Sound image data (*.WAV) is displayed.

For Internet:
The data (*.WMV, *.JPG) is displayed.

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.
- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

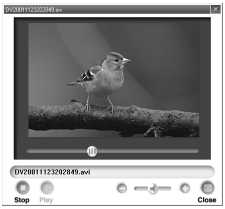
- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3 **Click [View Manager]** to display the View Manager screen.

To view Motion images

4 **Click on [Movie].**
- The first frame of each Motion image will be displayed as a list.

5 **Double click on the desired Motion image** to display the playback screen.
- Click ▶ to start Motion image playback.


DV20011123202849.avi
DV20011123202849.avi
Stop
Play
Close

Note
- You can also playback a motion image by simply pointing at the thumbnail with your mouse. Duration Rec Time, and size are displayed as well. (Only size for still images.)

To view Still images

4 **Click on [All] or [Picture]** to display the Still image list.

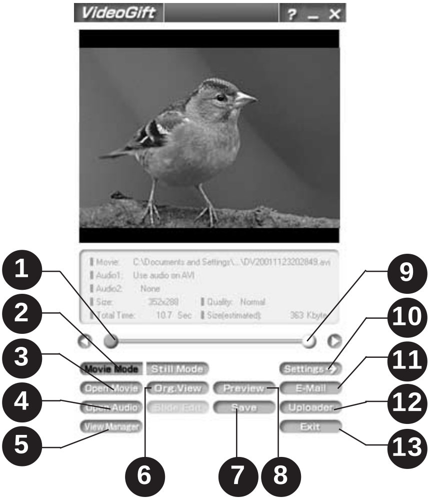
5 **Double Click on the desired image to open it.**

DV20011123204018.jpg
DV20011123204018.jpg
Close

Note
- If the image cannot be opened, please refer to the software Help menu.

VideoGift Screen

You can use these features using the VideoGift Screen.


Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 10.7 Sec
Size(estimated): 363 Kbyte
VideoGift
? _ X
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
1
2
3
4
5
6
7
8
9
10
11
12
13

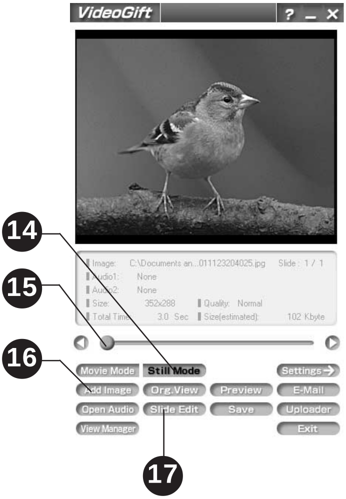


Image: C:\Documents an...011123204025.jpg
Slide : 1 / 1
Audio1: None
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 3.0 Sec
Size(estimated): 102 Kbyte
VideoGift
? _ X
Movie Mode
Still Mode
Settings
Add Image
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
14
15
16
17

1 **Slider**
Drag the pointer of the playback start position.

2 **Movie Mode**
You can display motion images.

3 **Open Movie**
You can open folders containing video files (*.AVI, *.WMV).

4 **Open Audio**
You can open folders containing audio files (*.WAV). Valid only when the file is opened in the VideoGift screen.

5 **View Manager**
You can open the View Manager screen.

6 **Org. View**
You can play original moving image: (Uncompressed moving image.)

7 **Save**
You can save the compressed images (*.WMV) to your hard disk.

8 **Preview**
You can preview the compressed motion image.

9 **Slider**
Drag the pointer of the playback end position.

10 **Settings**
You can open the “Compression Settings” screen. (p. 69)

11 **E-mail**
You can attach the compressed image to your e-mail.

12 **Uploader**
You can upload edited moving images and still images to the PictureStage home page.

13 **Exit**
Exits VideoGift screen.

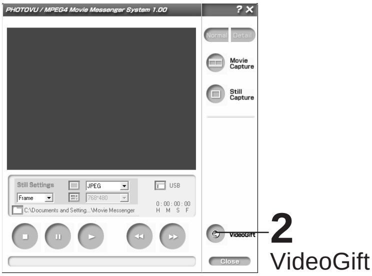
14 **Still Mode**
You can display still images.

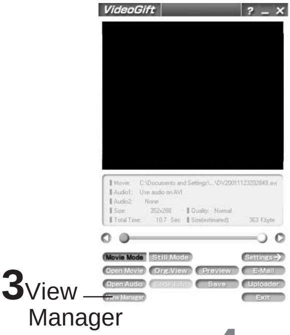
15 **Slider**
When several still images are opened in the VideoGift screen, a slide show of the images can be done.

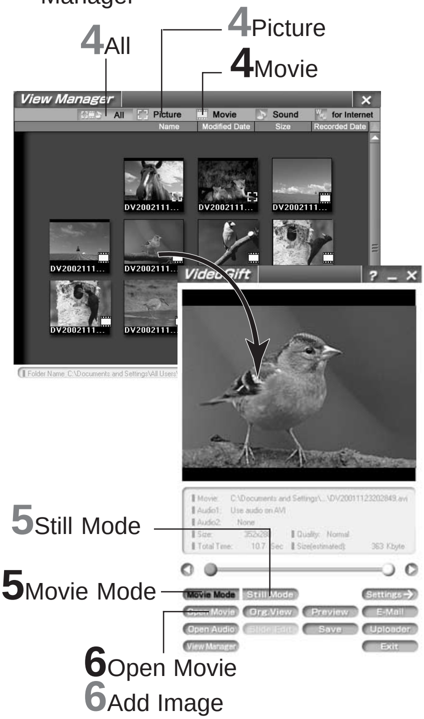
16 **Add Image**
You can open the folder containing a desired still image to add images.

17 **Slide Edit**
A collection of still images can be edited as a slide show.

Using the VideoGift Screen


PHOTOVU / MPEG4 Movie Messenger System 1.00
Normal
Detail
Movie Capture
Still Capture
Still Settings
JPEG
Frame
USB
VideoGift
Close
2
VideoGift


VideoGift
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
3
View Manager


4
All
4
Picture
4
Movie
View Manager
All
Picture
Movie
Sound
for Internet
Name
Modified Date
Size
Recorded Date
DV2002111...
VideoGift
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
5
Still Mode
5
Movie Mode
6
Open Movie
6
Add Image

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.

- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If "Unable To Locate DLL" warning indication is displayed, please see page 90.

3 **Click [View Manager]** to display the View Manager screen.

Using a Motion Image on the VideoGift Screen

4 **Click on [Movie]** to display a Motion image list on the View Manager screen.

5 **Click on [Movie Mode]** on the VideoGift screen.

6 **Select the Motion image from the View Manager screen, then drag and drop the image to the "VideoGift" screen.**

- By clicking [Open Movie], you can add the saved motion images on your PC hard disk. You can also select the file by dragging and dropping from Windows Explorer.
- You can use the VideoGift features (p. 64) on the VideoGift screen.

Using a Still Image on the VideoGift Screen

4 **Click on [All] or [Picture]** to display a Still image list on the View Manager screen.

5 **Click on [Still Mode]** on the VideoGift screen.

6 **Select the Still image from the View Manager screen, then drag and drop the image to the "VideoGift" screen.**

- When clicking [Add Image], you can add the saved still images on your PC hard disk.
- If selecting a frame from a motion image, See "Selecting a Frame from a Motion Image" on page 70.
- You can use the VideoGift features (p. 64) on the VideoGift screen.

Setting the Mail Software

It is possible to set the mail software to start up automatically when [E-Mail] of VideoGift is clicked.

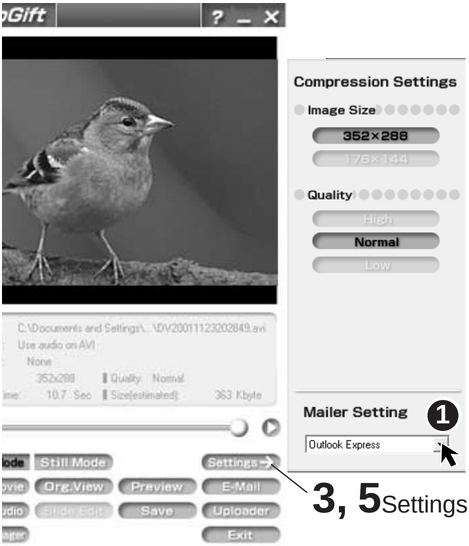
Note

The e-mail Software must support MAPI (Messaging Application Programming Interface).

Below are some e-mail Software programs which support MAPI:

Microsoft Outlook, Microsoft Outlook Express, Netscape Messenger:

- Outlook Express 5x, Outlook97, Outlook98, Outlook2000
- Outlook Express 4x
- Other MAPI applications [Netscape Messenger 4.5x, and so on]



C:\Documents and Settings\...\DV20011123202849.avi
Use audio on AVI
None
352x288 Quality: Normal
10.7 Sec Size(estimated): 363 Kbyte

Compression Settings
Image Size: 352×288 / 176×144
Quality: High / Normal / Low

Mailer Setting ①: Outlook Express

3, 5 Settings

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.

- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3 **Click [Settings]** to display the Compression Settings/Mailer Settings screen.

4 **Click ①** to set the mail software.

- The mail software installed in the computer will be displayed.
- You can select Outlook Express or other software.

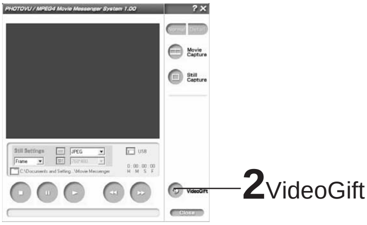
Note

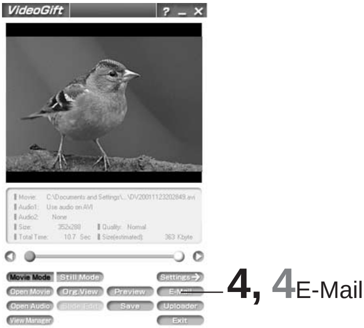
- If selecting software other than Outlook Express and Microsoft Outlook, click [Other]. From the file dialog box, select the executable file (*.exe) of the mail software application and then click [Open].

5 **Click [Settings]** to close the Compression Settings/Mailer Settings screen.

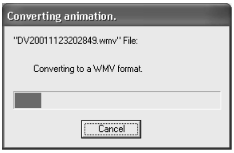
Attaching captured Motion and Still images to your e-mail

You can easily transfer and compress your Motion images as attachments to your e-mail.


PHOTOVU / MPEG4 Movie Messenger System 1.00
Movie Capture
Still Capture
Still Settings
JPEG
Frame
USB
Close
2VideoGift

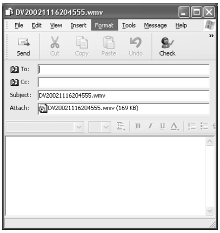

VideoGift
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
4, 4E-Mail

Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: None
Size: 352x288 Quality: Normal
Total Time: 10.7 Sec Size(estimated): 363 Kbyte


Converting animation.
Cancel

"DV20011123202849.wmv" File:

Converting to a WMV format.


DV20021116204555.wmv
File
Edit
View
Insert
Format
Tools
Message
Help
Send
Cut
Copy
Paste
Undo
Check

To:
Cc:
Subject: DV20021116204555.wmv
Attach: DV20021116204555.wmv (169 KB)

Note

- Refer to Help for information about application operations and Error messages.
- If your e-mail software is not supported by MAPI, pressing the [E-Mail] button will automatically open the folder containing the compressed file. To attach, drag and drop the file into your e-mail.

Before you begin

- Insert a recorded tape. (p. 11)
- Make Palmcorder-PC connections. (pp. 59, 60)
- Turn your PC on. (p. 59)
- Set Palmcorder POWER to VCR.

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.
- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

Attaching Motion images to e-mail

3 **Repeat steps 4~6 on page 65** to select a Motion Image.
- If sending a portion of a Motion image, see “Sending a Portion of a Motion Image” on page 68.
- To compress a Motion image, see “Setting the Size and Quality of Motion and Still Image” on page 69.

4 **Clicking on [E-Mail]** will convert the selected image to WMV format.

Note

- Follow the instructions as they appear on your PC screen.

Attaching Still images to e-mail

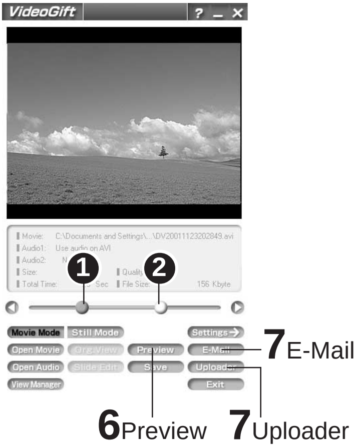
3 **Repeat steps 4~6 on page 65** to select a Still Image.
- To compress a Still image, see “Setting the Size and Quality of Motion and Still Image” on page 69.

4 **Clicking on [E-Mail]** will convert the selected image to WMV format.

Note

- Follow the instructions as they appear on your PC screen.

Sending a Portion of a Motion Image


VideoGift
? _ ×
1
2
Movie Mode
Still Mode
Settings →
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
7E-Mail
6Preview
7Uploader

Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: N
Size:
Quality
Total Time: Sec
File Size: 156 Kbyte

1. **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.
2. **Click [VideoGift]** to display the VideoGift screen.
   - The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3. **Select a Motion image.** (Continue with steps **4~6** on page 65 to specify the portion to be played.)
4. **Drag pointer ❶ to start position.**
5. **Drag pointer ❷ to end position.**
6. **Click [Preview].** (To set size/quality, do steps **4** and **5** on page 69.)
   - To save the image to your PC, click [Save].
7. **Click [E-Mail] and then send the e-mail message or click [Uploader] to upload to the PictureStage Home Page.** (pp. 67, 71)

Slide-Show Edit

A collection of still images can be edited as slides.

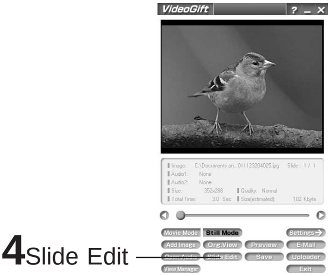
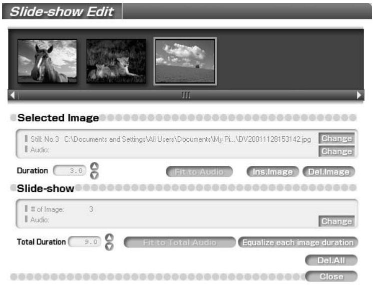

VideoGift
? _ ×
Movie Mode
Still Mode
Settings →
Add Image
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
4Slide Edit

Image: C:\Documents an...011123204025.jpg Slide : 1 / 1
Audio1: None
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 3.0 Sec
Size(estimated): 102 Kbyte


Slide-show Edit
Selected Image
Change
Change
Fit to Audio
Ins.Image
Del.Image
Slide-show
Change
Fit to Total Audio
Equalize each image duration
Del.All
Close

Still: No.3 C:\Documents and Settings\All Users\Documents\My Pi...\DV20011128153142.jpg
Audio:
Duration 3.0
# of Image: 3
Audio:
Total Duration 9.0

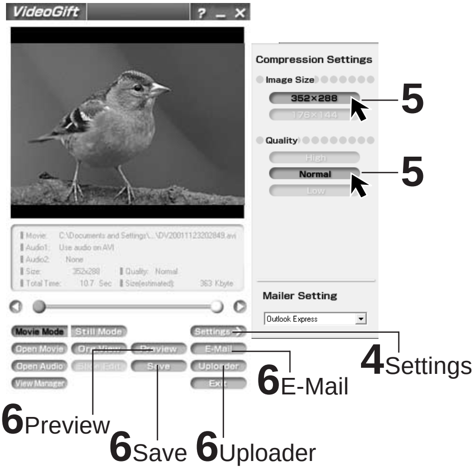
1. **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.
2. **Click [VideoGift]** to display the VideoGift screen.
   - The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3. **Select the Still images.** (See steps **4~6** on page 65.)
   - The selected Still images are displayed on the VideoGift screen.
4. **Click on [Slide Edit]** on the VideoGift screen.
   - The “Slide-show Edit” screen is displayed.
5. **Edit slides.**
   - Use “Help” for detailed instructions.

Setting the Size and Quality of Motion and Still Image

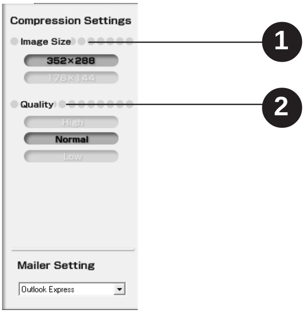


Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 10.7 Sec
Size(estimated): 363 Kbyte

VideoGift
Compression Settings
Image Size
352×288
176×144
Quality
High
Normal
Low
Mailer Setting
Outlook Express
Movie Mode
Still Mode
Settings
Open Movie
One View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
5
5
4Settings
6E-Mail
6Preview
6Save
6Uploader

Size of Compressed File

Image Quality	Image Size	
	352 x 288 pixels	176 x 144 pixels
High	3000 KB/min	1000 KB/min
Normal	2000 KB/min	600 KB/min
Low	1000 KB/min	360 KB/min



Compression Settings
Image Size
352×288
176×144
Quality
High
Normal
Low
Mailer Setting
Outlook Express
1
2

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.

- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3 **Select a Motion or Still image.**
(See steps **4**~**6** or **4**~**6** on page 65.)

- The selected Motion or Still image is displayed on the VideoGift screen.

4 **Press [Settings]** to display the “Compression Settings” screen.

5 **Set the Image Size and Quality.**

- See “Size of Compressed File” to the left.

6 **Click [Save]** to save the compressed image to your PC.

Click [Preview] to view the compressed Motion Image.

Click [E-mail] to send the e-mail message.

Click [Uploader] to upload to the PictureStage Home Page.

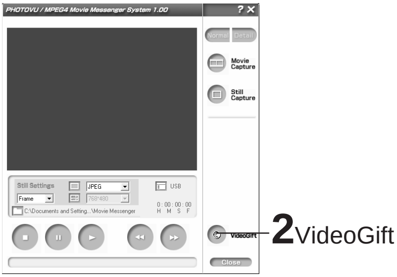
① **Image Size**
You can select the image size (352 x 288 or 176 x 144).

② **Quality**
You can select the image quality (High, Normal, Low).

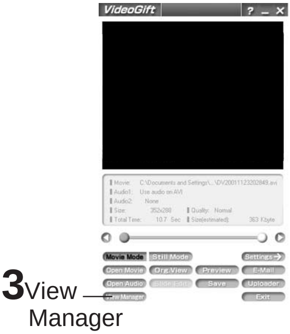
PHOTOVU/MPEG4 Movie Messenger System

Selecting a Frame from a Motion Image

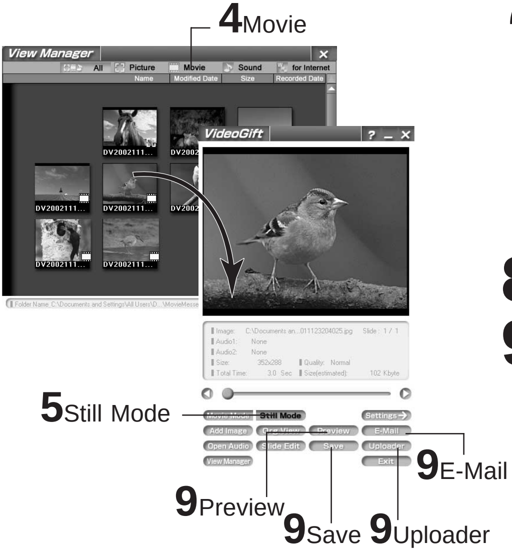
This screen is displayed when an individual frame from a moving image file is to be added as a still image.


PHOTOVU / MPEG4 Movie Messenger System 1.00
? X
Normal
Detail
Movie Capture
Still Capture
Still Settings
USB
H M S F
VideoGift
Close
2VideoGift

Frame
JPEG
768*480
C:\Documents and Setting...\Movie Messenger
0 : 00 : 00 : 00


VideoGift
? _ X
Movie Mode
Still Mode
Settings
Open Movie
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
3View Manager

Movie: C:\Documents and Settings\...\DV20011123202849.avi
Audio1: Use audio on AVI
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 10.7 Sec
Size(estimated): 363 Kbyte


4Movie
View Manager
All
Picture
Movie
Sound
for Internet
Name
Modified Date
Size
Recorded Date
DV2002111...
VideoGift
? _ X
Movie Mode
Still Mode
Settings
Add Image
Org.View
Preview
E-Mail
Open Audio
Slide Edit
Save
Uploader
View Manager
Exit
5Still Mode
9E-Mail
9Preview
9Save
9Uploader

Folder Name: C:\Documents and Settings\All Users\D...\MovieMesse

Image: C:\Documents an...011123204025.jpg Slide : 1 / 1
Audio1: None
Audio2: None
Size: 352x288
Quality: Normal
Total Time: 3.0 Sec
Size(estimated): 102 Kbyte

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.

- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users

- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

3 **Click [View Manager]** to display the View Manager screen.

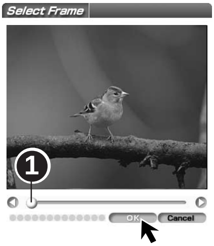
4 **Click on [Movie]** to display a Motion image list on the View Manager screen.

5 **Click on [Still Mode]** on the VideoGift screen.

6 **Select the Motion image from the View Manager screen, then drag and drop the image to the “VideoGift” screen.**

- The “Select Frame” screen is displayed.

7 **Drag the pointer ① to select a desired frame.**


Select Frame
①
OK
Cancel

8 **Click [OK].**

9 **Click [Save]** to save the compressed image to your PC.

Click [Preview] to view the compressed Motion Image.

Click [E-mail] to send the e-mail message.

Click [Uploader] to upload to the PictureStage Home Page.

Uploading the image to PictureStage Home Page*

You can upload edited moving images and still images to the PictureStage Home Page.

Before you begin

- Attain internet access.
- Before using this feature, you must become a registered member of PictureStage. For details on installation, settings, etc., please visit http://www.picturestage.com/ (current as of Dec. 28, 2001).

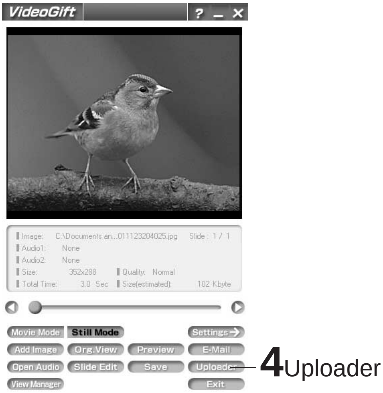
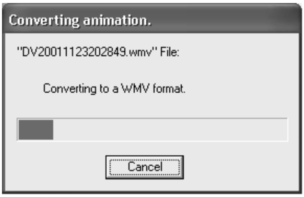


Image: C:\Documents an...011123204025.jpg Slide : 1 / 1
Audio1: None
Audio2: None
Size: 352x288 Quality: Normal
Total Time: 3.0 Sec Size(estimated): 102 Kbyte



Converting animation.

"DV20011123202849.wmv" File:

Converting to a WMV format.

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

2 **Click [VideoGift]** to display the VideoGift screen.
- The image captured last is displayed in the VideoGift screen.

Caution for Windows 2000 users
- If “Unable To Locate DLL” warning indication is displayed, please see page 90.

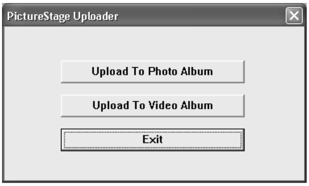
3 **Select a Motion or Still image to upload to PictureStage Home Page.** (See steps **4**~**6** or **4**~**6** on page 65.)
- The selected Motion or Still image is displayed on the VideoGift screen.
- If editing the image, see “Sending a Portion of a Motion Image”, “Setting the Size and Quality of Motion and Still Image”, “Slide-Show Edit” on pages 68 and 69.

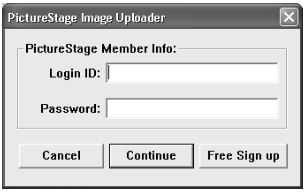
4 **Click on [Uploader]** on the VideoGift screen.
- The “Converting animation.” screen is displayed.
- When you click the [Uploader], PictureStage Uploader opens, and a temp folder containing WMV (compressed) files opens at the same time. Files can be dragged and dropped from this folder.

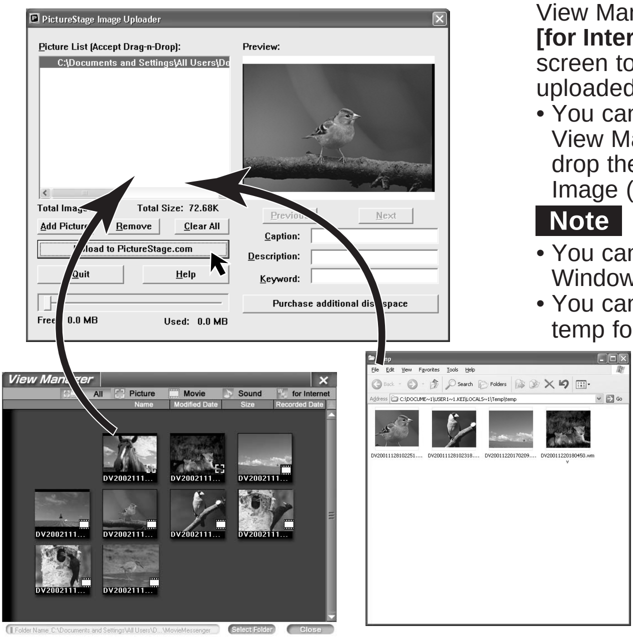
(Continued on next page.)

*** PictureStage Home Page**

PictureStage is a service whereby, through the uploading of images captured on this unit to the internet, data can be stored, albums can be created, images can be voluntarily and freely shared and exchanged with a third party, etc.


PictureStage Uploader
Upload To Photo Album
Upload To Video Album
Exit


PictureStage Image Uploader
PictureStage Member Info:
Login ID:
Password:
Cancel
Continue
Free Sign up


PictureStage Image Uploader
Picture List (Accept Drag-n-Drop):
Preview:
Total Size: 72.68K
Add Picture
Remove
Clear All
Upload to PictureStage.com
Quit
Help
Previous
Next
Caption:
Description:
Keyword:
Purchase additional disk space
Free: 0.0 MB
Used: 0.0 MB
View Manager
All
Picture
Movie
Sound
for Internet
Name
Modified Date
Size
Recorded Date
Select Folder
Close

5 **Click [Upload To Photo Album] to upload the Still Image or [Upload To Video Album] to upload the Motion Image.**

- The “PictureStage Image (Video) Uploader” screen is displayed.
- Click [Exit] to exit uploader.

6 **Enter your login ID and password, and then click [Continue].**

- **Click [Free Sign up] if you have no login ID.** The PictureStage Home Page opens and there you can get a login ID and password.

7 **Click [View Manager]** to display the View Manager screen, and then **click [for Internet]** on the View Manager screen to display files that can be uploaded.

- You can select the image from the View Manager screen, then drag and drop the image to the PictureStage Image (Video) Uploader screen.

Note

- You can also drag and drop files from Windows Explorer.
- You can also drag and drop files from temp folder.

8 **Click [Upload to PictureStage.com] on the PictureStage Uploader** to upload the files.

- For details on PictureStage Uploader, see the PictureStage Uploader operating manual.

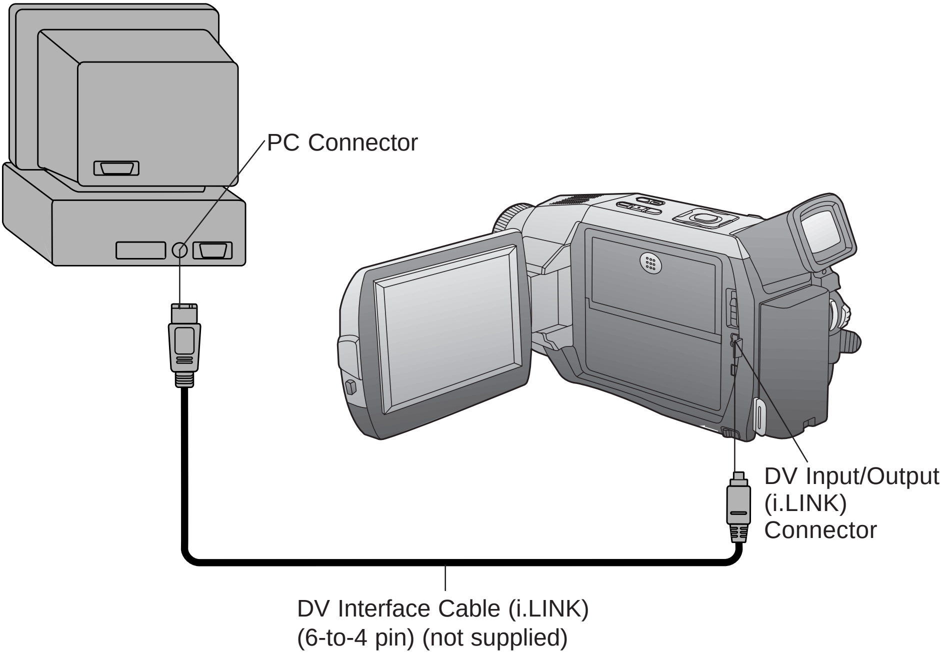
Transferring Your Images (i.LINK) (Windows)

PC Connection with DV Interface Cable (i.LINK)

A video clip can be transferred directly to your PC (Personal Computer) via a DV Interface Cable (i.LINK) (not supplied) using products and software from a number of video editing software companies.

Using products from video editing software companies allows you to capture and edit video clips using the DV Interface (i.LINK).

Our DVC being OHCI compliant should have no problem working with any OHCI compliant Firewire Card/video - Editing software package.


PC Connector
DV Input/Output (i.LINK) Connector
DV Interface Cable (i.LINK) (6-to-4 pin) (not supplied)

Note

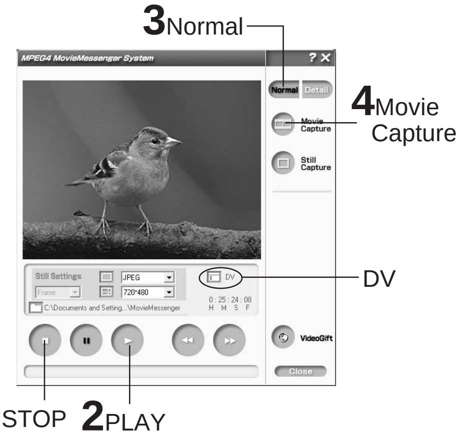
- PC must be equipped with an i.LINK terminal.
- During Palmcorder playback, do not disconnect the DV Interface Cable (i.LINK) or turn the Palmcorder off as this may cause a PC hang-up error.
- For PHOTOVU/MPEG4 Movie Messenger System, do not use 2 i.LINK terminals on your PC at the same time.
- PHOTOVU/MPEG4 Movie Messenger System i.LINK (DV) operates normally with Windows 98SE or later operating system.
- PHOTOVU/MPEG4 Movie Messenger System i.LINK connection may not work with some DV Interface boards. In this case, use the software included with the board.
- 1394 (i.LINK) interface must conform to OHCI (Open Host Controller Interface Specification).

Using Tape Image Data

By connecting the Palmcorder and PC with the DV Interface Cable (i.LINK), you can transfer Motion images and still images saved on the DV Tape directly to your PC.

Note

- If PHOTOVU/MPEG4 Movie Messenger System does not work, please refer to note on page 73.
- Deactivate your PC ScreenSaver or this application may shutdown during image capture.



How to insert the DV Interface Cable (i.LINK)

A **Set Palmcorder POWER to VCR.**

B **Connect the Palmcorder to your PC using the DV Interface Cable (i.LINK).**

C **Start up the PHOTOVU/MPEG4 Movie Messenger System.**

How to remove the DV Interface Cable (i.LINK)

A **Close the PHOTOVU/MPEG4 Movie Messenger System.**

B **Remove the DV Interface Cable (i.LINK) from the Palmcorder.**

C **Set Palmcorder POWER to OFF.**

Before you begin

- Insert a recorded Tape. (p. 11)
- Make Palmcorder-PC connections. (p. 73)
- Turn your PC on.
- Set Palmcorder POWER to VCR.
- **Run the Software after the DV Interface Cable (i.LINK) has been connected to the Palmcorder.**

1 **Repeat steps 1~4 on page 61** to run the PHOTOVU/MPEG4 Movie Messenger System.

Note

- When the DV Interface Cable (i.LINK) is connected, the input display will automatically become DV. If it is not DV, please confirm the connection. Then, close and restart the software.
- When using Windows XP, “Windows Movie Maker” may open automatically. If so, close “Windows Movie Maker“ and “Movie Messenger”, and open “Movie Messenger” again.

2 **Click ▶ (PLAY) button on PC screen** to playback the DV tape.

- Please use the LCD monitor on the Palmcorder or PC screen for confirmation.

To capture Motion images

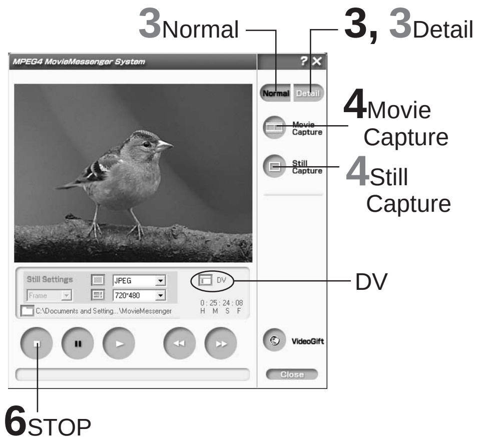
[When selecting Normal]

3 **Click on [Normal]** .

4 **Click on [Movie Capture]** at the point you wish to capture a Motion image. Click on [STOP] to end capture.

- The image is transferred to the PC in real time.
- The maximum capture time is approx. 3 minutes.
- When capturing data containing changes between 12 bit and 16 bit and/or between SP and LP mode, a separate file will be made for each mode.
- Please refer to pages 63~72 for other functions.

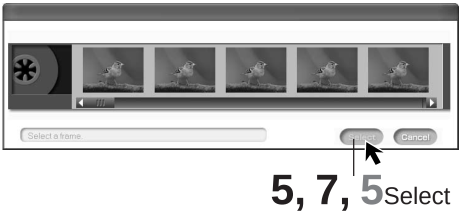
(Continued on next page.)


3Normal
3, 3Detail
4Movie Capture
4Still Capture
DV
6STOP
MPEG4 MovieMessenger System
Normal
Detail
Movie Capture
Still Capture
VideoGift
Close

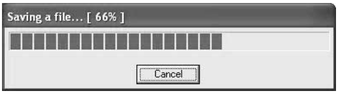
Still Settings: Frame, JPEG, 720*480

C:\Documents and Setting...\MovieMessenger

0 : 25 : 24 : 08
H M S F


5, 7, 5Select
Select
Cancel

Select a frame.



Saving a file... [66%]

To capture Still images

[When selecting Detail]

3 **Click on [Detail]**.

4 **Click on [Still Capture]** at the point you wish to capture images.
- The screen to select frames is displayed.

5 **Select the frame** for the segment to be captured select frames, and **click [Select].**
- Repeat steps **4** and **5** to continue capturing images.
- Captured Still images are saved to the PC, and you can playback the saved images on the View Manager. (P. 63)

[When selecting Detail]

Note
- Detail mode lets you specify the start and end frames for the video segment you want to capture and save.

3 **Click on [Detail]**.

4 **Click on [Movie Capture]** at the point you wish to capture a Motion image.
- The screen to select the start frame is displayed.

5 **Select the start frame** for the segment to be captured select one frame, and **click [Select].**
- “Now Searching...” is displayed, and the DV tape is rewound to the point at which the capture was started.
- “Now capturing a movie.” is displayed.

6 **Click on [Stop]** to end capture.
- The screen to select the end frame is displayed.

7 **Select the end frame** for the segment to be captured select one frame, and **click [Select].**
- “Saving a file...” is displayed.
- The image is transferred to the PC in real time.

To capture Still images

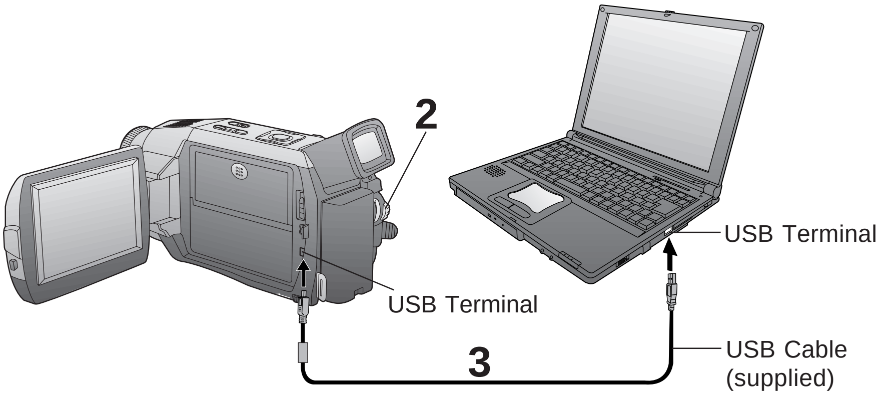
[When selecting Normal]

3 **Click on [Normal]**.

4 **Click on [Still Capture]** at the point you wish to capture an image.
- Repeat step **4** to continue capturing images.
- Captured Still images are saved to the PC, and you can playback the saved images on the View Manager. (P. 63)

Palmcorder USB Device Driver/SD Drive

Connection (for Palmcorder USB Device Driver/SD Drive)



1 **Turn on your PC.**

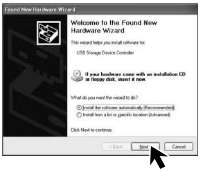
2 **Set the Palmcorder POWER to M-CARD.**

For Windows XP users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).

- “CONNECT WITH PC” appears in the EVF or the LCD monitor.
- The “Found New Hardware Wizard” screen of Windows is displayed.
  The following message ② is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000.
  Click [Continue Anyway] and proceed.
  Follow the instructions as they appear on your PC screen.

①



Found New Hardware Wizard

Welcome to the Found New Hardware Wizard

This wizard helps you install software for:

USB Storage Device Controller

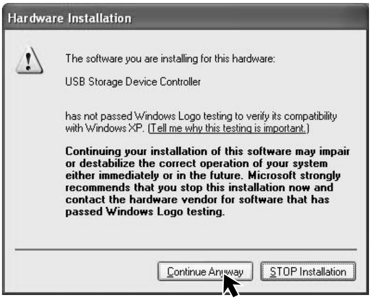
If your hardware came with an installation CD or floppy disk, insert it now.

What do you want the wizard to do?

● Install the software automatically (Recommended)
○ Install from a list or specific location (Advanced)

Click Next to continue.

②



Hardware Installation

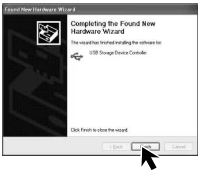
The software you are installing for this hardware:

USB Storage Device Controller

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

③



Found New Hardware Wizard

Completing the Found New Hardware Wizard

The wizard has finished installing the software for:

USB Storage Device Controller

Click Finish to close the wizard.

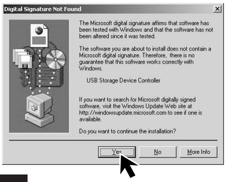
Note

- When connecting for the first time using Windows XP, the OS installation CD may be required.
  Follow the instructions as they appear on your PC screen.
- For extended use, the AC Adaptor should be used as a power source.

Palmcorder USB Device Driver/SD Drive

For Windows 2000 users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).
- “CONNECT WITH PC” appears in the EVF or the LCD monitor.
- The “Found New Hardware” screen of Windows is displayed.
- When the Palmcorder and PC (with Windows 2000) are connected via USB, a message, such as the one below, is displayed.
The following message is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000. Click [Yes] and proceed.



Digital Signature Not Found

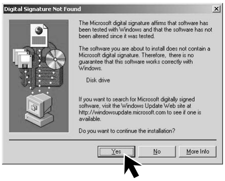
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

USB Storage Device Controller

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?



Digital Signature Not Found

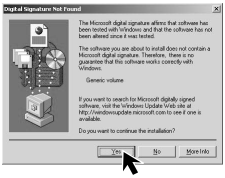
The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

Disk drive

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?



Digital Signature Not Found

The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

Generic volume

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?

Note

- For extended use, the AC Adaptor should be used as a power source.

For Windows 98SE/Me users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).
- “CONNECT WITH PC” appears in the EVF or the LCD monitor.

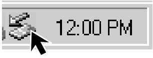
Note

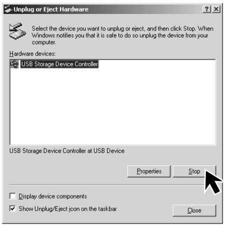
- For extended use, the AC Adaptor should be used as a power source.

To disconnect USB Cable safely (Windows Me/2000/XP)

If USB Cable is disconnected while computer is on, error message may appear. In such a case click [OK] and close the dialog box. By following the steps you can disconnect the cable safely.

[This screen is an example (Windows 2000)]





Unplug or Eject Hardware

Select the device you want to unplug or eject, and then click Stop. When Windows notifies you that it is safe to do so unplug the device from your computer.

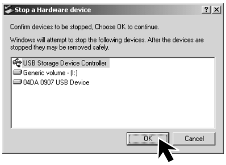
Hardware devices:

USB Storage Device Controller

USB Storage Device Controller at USB Device

☐ Display device components

☑ Show Unplug/Eject icon on the taskbar

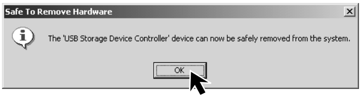


Stop a Hardware device

Confirm devices to be stopped, Choose OK to continue.

Windows will attempt to stop the following devices. After the devices are stopped they may be removed safely.

USB Storage Device Controller
Generic volume - (I:)
04DA 0907 USB Device



Safe To Remove Hardware

The 'USB Storage Device Controller' device can now be safely removed from the system.

1 **Double-click the** **icon in the task tray.**

2 **Select [USB Storage Device Controller]* and click [Stop].**

3 **Verify [USB Storage Device Controller]* is selected and click [OK].**

4 **Click [OK].**
- You can safely disconnect the cable.

* **If you are using Windows Me, [USB Disk] will be displayed.**

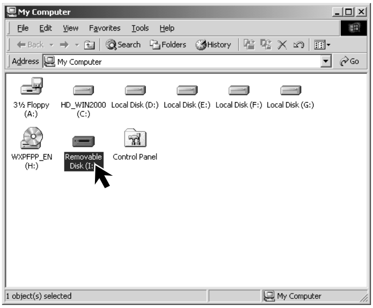
Note

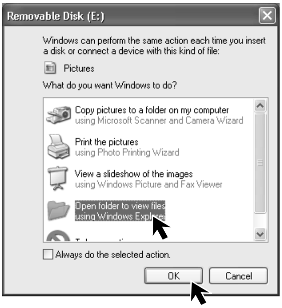
- Some OS, such as Windows 98SE, may not show the icon indication that you may safely disconnect in task tray. (OS may be set not to show) After the [ACCESS] display disappears from the EVF or LCD monitor you may disconnect the USB Cable.

Palmcorder USB Device Driver/SD Drive

Using Memory Card Image Data

By connecting the Palmcorder and PC with the USB, you can transfer Still images saved on the Memory Card directly to your PC.


My Computer
File
Edit
View
Favorites
Tools
Help
Back
Search
Folders
History
Address
My Computer
Go
3½ Floppy (A:)
HD_WIN2000 (C:)
Local Disk (D:)
Local Disk (E:)
Local Disk (F:)
Local Disk (G:)
WXPFPP_EN (H:)
Removable Disk (I:)
Control Panel
1 object(s) selected
My Computer


Removable Disk (E:)

Windows can perform the same action each time you insert a disk or connect a device with this kind of file:

Pictures

What do you want Windows to do?

Copy pictures to a folder on my computer using Microsoft Scanner and Camera Wizard

Print the pictures using Photo Printing Wizard

View a slideshow of the images using Windows Picture and Fax Viewer

Open folder to view files using Windows Explorer

☐ Always do the selected action.

Note

- Please do not change file or folder names on the PC. The images on the Memory Card may not be able to be viewed on the Palmcorder.
- When “ACCESS” is displayed in the EVF or LCD monitor, please do not remove the Memory Card or USB Cable, or turn off the power as data may be damaged.

Before you begin

- Install the Palmcorder USB Device Driver. (p. 56)
- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)
- Make Palmcorder-PC connections. (pp. 76, 77)
- Turn your PC on. (p. 76)

For Windows 98SE/Me/2000 users

1 **Connect the Palmcorder to your PC using the USB Cable (supplied).** (pp. 76, 77)
- “PLEASE WAIT”, “CONNECT WITH PC”, and “STORAGE” appears in the EVF or the LCD monitor.

2 **Open My Computer.**

3 **Click [Removable Disk].**
- You can view images stored on the Memory Card and also save them to your hard disk.

For Windows XP users

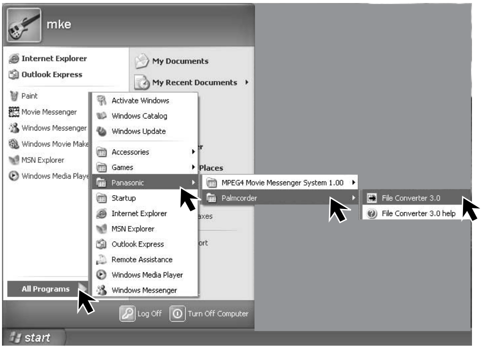
1 **Connect the Palmcorder to your PC using the USB Cable (supplied).** (pp. 76, 77)
- The “Removable Disk” screen is displayed.
- “PLEASE WAIT”, “CONNECT WITH PC”, and “STORAGE” appears in the EVF or the LCD monitor.

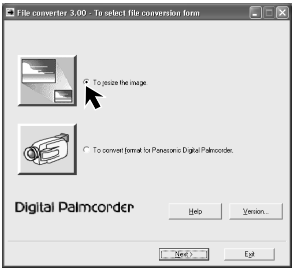
2 **Click on [Open folder to view files using Windows Explorer] and then [OK].**
- You can view images stored on the Memory Card and also save them to your hard disk.

Palmcorder File Converter

Using Palmcorder File Converter

You can convert the JPEG data of your PC into DCF (Design rule for Camera File System) data, and transfer this data to your Palmcorder via USB.

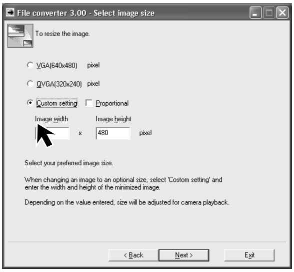

mke
Internet Explorer
Outlook Express
Paint
Movie Messenger
Windows Messenger
Windows Movie Make
MSN Explorer
Windows Media Playe
My Documents
My Recent Documents
Places
All Programs
Activate Windows
Windows Catalog
Windows Update
Accessories
Games
Panasonic
Startup
Internet Explorer
MSN Explorer
Outlook Express
Remote Assistance
Windows Media Player
Windows Messenger
MPEG4 Movie Messenger System 1.00
Palmcorder
File Converter 3.0
File Converter 3.0 help
Log Off
Turn Off Computer
start


File converter 3.00 - To select file conversion form

● To resize the image.

○ To convert format for Panasonic Digital Palmcorder.

Digital Palmcorder
Help
Version...
Next >
Exit


File converter 3.00 - Select image size

To resize the image.

○ VGA(640x480) pixel

○ QVGA(320x240) pixel

● Custom setting ☐ Proportional

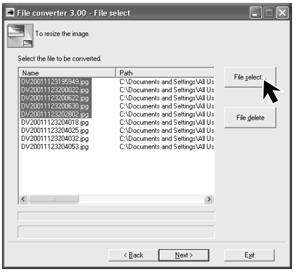
Image width x Image height 480 pixel

Select your preferred image size.

When changing an image to an optional size, select 'Costom setting' and enter the width and height of the minimized image.

Depending on the value entered, size will be adjusted for camera playback.

< Back
Next >
Exit


File converter 3.00 - File select

To resize the image.

Select the file to be converted.

Name	Path
DV20011123195949.jpg	C:\Documents and Settings\All Us
DV20011123200022.jpg	C:\Documents and Settings\All Us
DV20011123200622.jpg	C:\Documents and Settings\All Us
DV20011123200630.jpg	C:\Documents and Settings\All Us
DV20011123202802.jpg	C:\Documents and Settings\All Us
DV20011123204018.jpg	C:\Documents and Settings\All Us
DV20011123204025.jpg	C:\Documents and Settings\All Us
DV20011123204032.jpg	C:\Documents and Settings\All Us
DV20011123204053.jpg	C:\Documents and Settings\All Us

File select...
File delete
< Back
Next >
Exit

1 **Set Palmcorder POWER to M-CARD.**

2 **Connect the Palmcorder to your PC using the USB Cable (supplied).** (pp. 76, 77)

3 **Click on “Start,” “(All) Programs,” “Panasonic,” “Palmcorder,” then “File Converter 3.0.”**

4 **Select and click “To resize the image” or “To convert format for Panasonic Digital Palmcorder.”**

- **To resize the image:**
  The size of images captured with the Palmcorder can be increased or decreased to make them suitable for Internet and E-mail use.
- **To convert format for Panasonic Digital Palmcorder:**
  Images can be converted to JPEG format and to file names that can be played back on the Palmcorder.

When selecting “To resize the image”

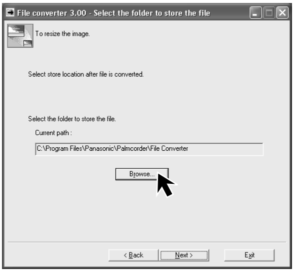
5 **Select the size for the image you want to change. Then, click on “File select” and select the file to be converted.**

Note

- When User Select is selected, you can specify a size within a range of 2048 x 1536 ~ 64 x 48 pixels.

(Continued on next page.)

Palmcorder File Converter


File converter 3.00 - Select the folder to store the file
Browse...
< Back
Next >
Exit

To resize the image.

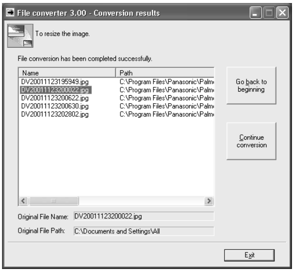
Select store location after file is converted.

Select the folder to store the file.

Current path : C:\Program Files\Panasonic\Palmcorder\File Converter

6 **Select the folder to which the converted file is to be saved.**

- The Conversion results screen is displayed.


File converter 3.00 - Conversion results
Go back to beginning
Continue conversion
Exit

To resize the image.

File conversion has been completed successfully.

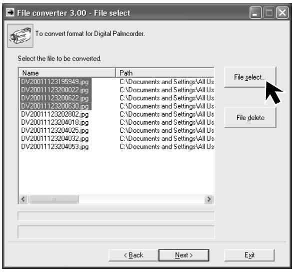
Name	Path
DV20011123195949.jpg	C:\Program Files\Panasonic\Palm
DV20011123200022.jpg	C:\Program Files\Panasonic\Palm
DV20011123200622.jpg	C:\Program Files\Panasonic\Palm
DV20011123200630.jpg	C:\Program Files\Panasonic\Palm
DV20011123202802.jpg	C:\Program Files\Panasonic\Palm

Original File Name: DV20011123200022.jpg

Original File Path: C:\Documents and Settings\All

7 Use “Help” for detailed instructions.

When selecting “To convert format for Panasonic Digital Palmcorder”

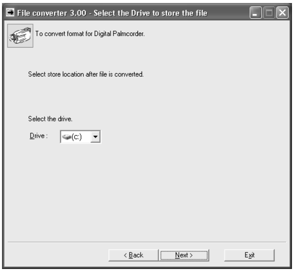

File converter 3.00 - File select
File select...
File delete
< Back
Next >
Exit

To convert format for Digital Palmcorder.

Select the file to be converted.

Name	Path
DV20011123195949.jpg	C:\Documents and Settings\All Us
DV20011123200022.jpg	C:\Documents and Settings\All Us
DV20011123200622.jpg	C:\Documents and Settings\All Us
DV20011123200630.jpg	C:\Documents and Settings\All Us
DV20011123202802.jpg	C:\Documents and Settings\All Us
DV20011123204018.jpg	C:\Documents and Settings\All Us
DV20011123204025.jpg	C:\Documents and Settings\All Us
DV20011123204032.jpg	C:\Documents and Settings\All Us
DV20011123204053.jpg	C:\Documents and Settings\All Us

5 **Select the file to be converted.**


File converter 3.00 - Select the Drive to store the file
< Back
Next >
Exit

To convert format for Digital Palmcorder.

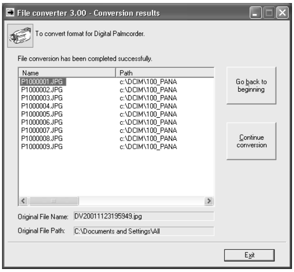
Select store location after file is converted.

Select the drive.

Drive : (C:)

6 **Select the drive to which the converted file is to be saved.**

- The Conversion results screen is displayed.


File converter 3.00 - Conversion results
Go back to beginning
Continue conversion
Exit

To convert format for Digital Palmcorder.

File conversion has been completed successfully.

Name	Path
P1000001.JPG	c:\DCIM\100_PANA
P1000002.JPG	c:\DCIM\100_PANA
P1000003.JPG	c:\DCIM\100_PANA
P1000004.JPG	c:\DCIM\100_PANA
P1000005.JPG	c:\DCIM\100_PANA
P1000006.JPG	c:\DCIM\100_PANA
P1000007.JPG	c:\DCIM\100_PANA
P1000008.JPG	c:\DCIM\100_PANA
P1000009.JPG	c:\DCIM\100_PANA

Original File Name: DV20011123195949.jpg

Original File Path: C:\Documents and Settings\All

7 Use “Help” for detailed instructions.

Web Camera

Before Using Web Camera* Features

Web Camera*
MSN Messenger and NetMeeting are software that can be linked and used together. Using the Palmcorder and the Internet, you can communicate with others by having picture and sound similar in fashion to a videophone.

Please read this first

- **To use the Web Camera feature, Microsoft's Windows Messenger, MSN Messenger Service, and Windows NetMeeting are required.**
- **For this feature, both parties must have Windows XP.**
  For this feature, both parties must have Windows 98SE/Me/2000.

- MSN Messenger Service, Windows Messenger and Windows NetMeeting are registered trademarks of America Microsoft Corporation in the United States and other countries.
- Communication quality and assured connectability are dependent upon the congestion conditions of your Internet provider (ISP) and MSN Messenger Service, etc. This product does not guarantee assured communication quality.

Conditions for Use

- You have direct dial-up connection capability to the Internet.
  Also, you and the other person(s) are in the same Network (LAN).
- Microsoft MSN Messenger Service 4.5 or later/Windows NetMeeting 3.01 or later is installed.
  For Windows XP users, Windows Messenger 4.5 or later is installed.
- It is convenient if the person you want to access is already a registered member of Windows Messenger or MSN Messenger Service.

For Windows XP users

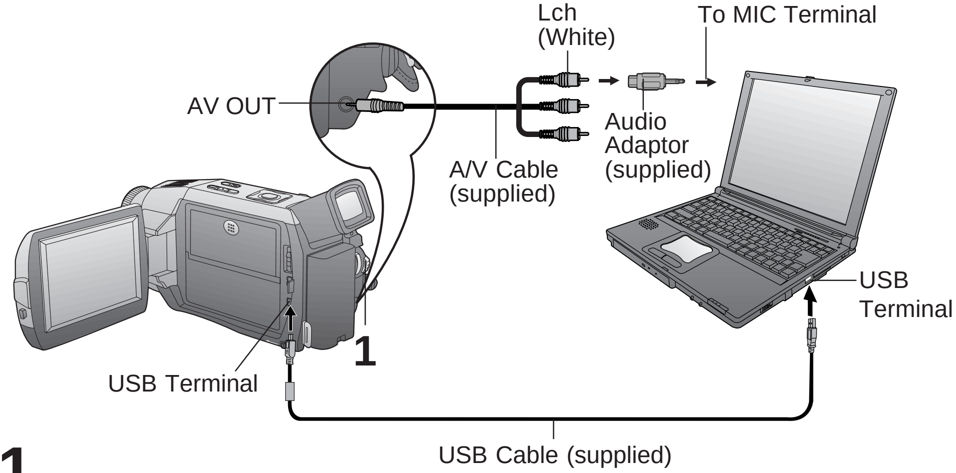
Connect the Palmcorder to the PC.
↓
Connect to the provider with dial-up network.
↓
Connect to provider with exclusive connection software.
↓
Windows Messenger is running.
↓
Select the person to call (invite).
↓
Start

For Windows 98SE/Me/2000 users

Connect the Palmcorder to the PC.
↓
Connect to the provider with dial-up network.
↓
Connect to provider with exclusive connection software.
↓
MSN Messenger Service is running.
↓
Select the person to call (invite).
↓
NetMeeting runs.
↓
Start

Web Camera

Connection (for Web Camera)



1 **Turn on your PC.**

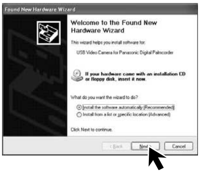
2 **Set the Palmcorder POWER to CAMERA.**

For Windows XP users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).

- “Found New Hardware Wizard” is displayed.
  The following message ② is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000.
  Click [Continue Anyway] and proceed.
  Follow the instructions as they appear on your PC screen.

①



Found New Hardware Wizard

Welcome to the Found New Hardware Wizard

This wizard helps you install software for:

USB Video Camera for Panasonic Digital Palmcorder

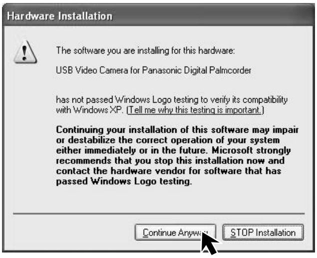
If your hardware came with an installation CD or floppy disk, insert it now.

What do you want the wizard to do?

- ● Install the software automatically (Recommended)
- ○ Install from a list or specific location (Advanced)

Click Next to continue.

②



Hardware Installation

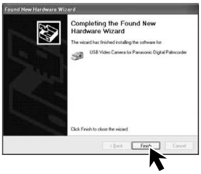
The software you are installing for this hardware:

USB Video Camera for Panasonic Digital Palmcorder

has not passed Windows Logo testing to verify its compatibility with Windows XP. (Tell me why this testing is important.)

Continuing your installation of this software may impair or destabilize the correct operation of your system either immediately or in the future. Microsoft strongly recommends that you stop this installation now and contact the hardware vendor for software that has passed Windows Logo testing.

③



Found New Hardware Wizard

Completing the Found New Hardware Wizard

The wizard has finished installing the software for:

USB Video Camera for Panasonic Digital Palmcorder

Click Finish to close the wizard.

- “CONNECT WITH PC” and “WEB CAM” are displayed in the EVF and LCD monitor. A gray box is also displayed. The image within the box can be used with communication.
- Place the Palmcorder so that you are in the picture.
- To confirm if the connection between the Palmcorder and PC is correct, please refer to “Audio Tuning Wizard” on page 85.

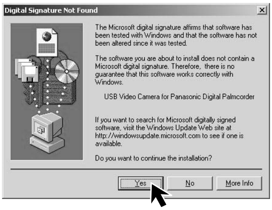
Note

- When connecting for the first time using Windows XP, the OS installation CD may be required. Follow the instructions as they appear on your PC screen.

4 **Go to step 5** on page 83.

For Windows 2000 users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).
- “Found New Hardware” is displayed.
- “CONNECT WITH PC” and “WEB CAM” are displayed in the EVF and LCD monitor. A gray box is also displayed. The image within the box can be used with communication.
- Place the Palmcorder so that you are in the picture.
- To confirm if the connection between the Palmcorder and PC is correct, please refer to “Audio Tuning Wizard” on page 85.
- When the Palmcorder and PC (with Windows 2000) are connected via USB, a message, such as the one below, is displayed.
  The following message is displayed. However, testing by the manufacturer has confirmed functionality of this palmcorder with Windows XP/2000.
  Click [Yes] and proceed.



The Microsoft digital signature affirms that software has been tested with Windows and that the software has not been altered since it was tested.

The software you are about to install does not contain a Microsoft digital signature. Therefore, there is no guarantee that this software works correctly with Windows.

USB Video Camera for Panasonic Digital Palmcorder

If you want to search for Microsoft digitally signed software, visit the Windows Update Web site at http://windowsupdate.microsoft.com to see if one is available.

Do you want to continue the installation?

4 **Go to step 5** below.

For Windows 98SE/Me users

3 **Connect the Palmcorder to your PC (Windows)** using the USB Cable (supplied).
- “CONNECT WITH PC” and “WEB CAM” are displayed in the EVF and LCD monitor. A gray box is also displayed. The image within the box can be used with communication.
- Place the Palmcorder so that you are in the picture.
- To confirm if the connection between the Palmcorder and PC is correct, please refer to “Audio Tuning Wizard” on page 85.

Note
- When connecting for the first time using Windows 98SE or Me, the OS installation CD may be required.

4 **Go to step 5** below.

---

5 **Connect the A/V Cable (supplied) to the Audio Adaptor (supplied).**
- For PCs with no built-in mic, connecting the A/V Cable (supplied) to the Audio Adaptor (supplied), the Palmcorder replaces the mic.
- If the speaker and mic are in close proximity, howling may occur.

Note
- Do not disconnect the USB Cable while in use.
  This could be a source of trouble. For more details, please read the corresponding Help file.
- Close the application, then disconnect the USB Cable.

Web Camera (For Windows XP users)

For Windows Messenger (Windows XP only)

When Windows Messenger is newly installed or when running for the first time, the following settings become necessary. For more details, please read the corresponding Help file.

Note

- Once settings are performed, they are not required from the second time the software is run.

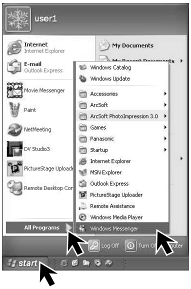
Before you begin

- Be sure you have a dial-up connection.
- Referring to pages 82~83, connect the Palmcorder and PC.
  Confirm that equipment is connected correctly by running the [Audio Tuning Wizard]. (p. 85)

Caution

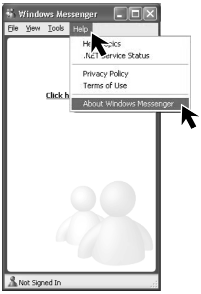
- **This feature can be used only if both parties have Windows XP.**
  For Windows Messenger, please refer to the Microsoft Home Page:
  http://www.microsoft.com/
  http://www.msn.com/

1 **Turn on your PC.**


user1
Internet
Internet Explorer
E-mail
Outlook Express
Movie Messenger
Paint
NetMeeting
DV Studio3
PictureStage Uploader
Remote Desktop Con
All Programs
My Documents
Windows Catalog
Windows Update
Accessories
ArcSoft
ArcSoft PhotoImpression 3.0
Games
Panasonic
Startup
Internet Explorer
MSN Explorer
Outlook Express
PictureStage Uploader
Remote Assistance
Windows Media Player
Windows Messenger
Log Off
start

2 **Click on “Start,” “All programs,” “Windows Messenger.”**

- “Windows Messenger” screen is opened.

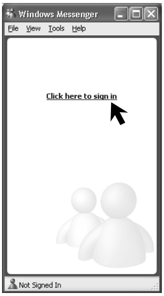

Windows Messenger
File
View
Tools
Help
Help Topics
.NET Service Status
Privacy Policy
Terms of Use
About Windows Messenger
Not Signed In

3 **Click on [About Windows Messenger] in the [Help] menu.**

- Confirm that your version (Windows Messenger) is 4.5 or later.

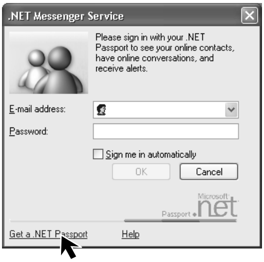
Note

- If you have a version older than 4.5, please download the latest version (4.5 or later) from the Microsoft Home Page:
  http://www.microsoft.com/
  http://www.msn.com/
- For download and installation instructions, please refer to Help on the Home Page.


Windows Messenger
File
View
Tools
Help
Click here to sign in
Not Signed In

4 The first time Windows Messenger is run, etc., the Setup screen is displayed.
Click [Click here to sign in].
Please carefully read the contents and then proceed.

Web Camera (For Windows XP users)

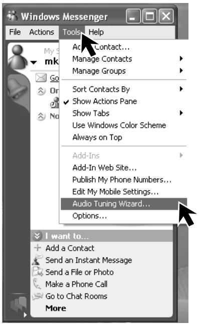

.NET Messenger Service
E-mail address:
Password:
☐ Sign me in automatically
OK
Cancel
Microsoft
Passport
net
Get a .NET Passport
Help

Please sign in with your .NET Passport to see your online contacts, have online conversations, and receive alerts.

5 Type in your E-mail address and password.

- You’ll need to get a hotmail address. If you do not have one, click on [Get a .NET Passport].
  Please carefully read the displayed contents and then proceed.

There are times when a Version Upgrade screen will be displayed. However, if you are using Windows Messenger 4.5 or later, there is no need to upgrade.

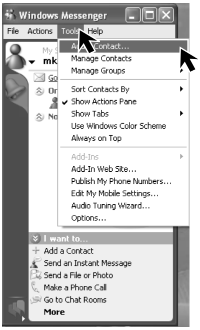

Windows Messenger
File
Actions
Tools
Help
Add a Contact...
Manage Contacts
Manage Groups
Sort Contacts By
✓ Show Actions Pane
Show Tabs
Use Windows Color Scheme
Always on Top
Add-Ins
Add-In Web Site...
Publish My Phone Numbers...
Edit My Mobile Settings...
Audio Tuning Wizard...
Options...
I want to...
Add a Contact
Send an Instant Message
Send a File or Photo
Make a Phone Call
Go to Chat Rooms
More

6 Click on [Audio Tuning Wizard] in the [Tools] menu.

Note

- You can set the volume for playback or mic volume, etc.
- Also, confirm that the Palmcorder and PC are connected correctly.

The person you wish to access needs to do settings **1**~**6** also.

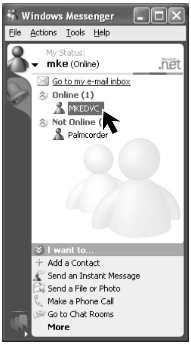

Windows Messenger
File
Actions
Tools
Help
Add a Contact...
Manage Contacts
Manage Groups
Sort Contacts By
✓ Show Actions Pane
Show Tabs
Use Windows Color Scheme
Always on Top
Add-Ins
Add-In Web Site...
Publish My Phone Numbers...
Edit My Mobile Settings...
Audio Tuning Wizard...
Options...
I want to...
Add a Contact
Send an Instant Message
Send a File or Photo
Make a Phone Call
Go to Chat Rooms
More

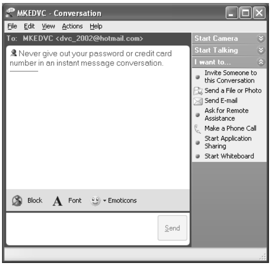
7 Select [File] -> [Add a Contact] to register the person you wish to access in Windows Messenger.

- Please enter the same e-mail address that the other person has registered with Windows Messenger.
- After registering the e-mail address of the person you wish to access, click on [Send E-Mail] and have the person register your e-mail address as well.

You cannot call a person who is not signed-on to Windows Messenger.

Web Camera (For Windows XP users)


Windows Messenger
File
Actions
Tools
Help
My Status:
mke (Online)
.net
Go to my e-mail inbox
Online (1)
MKEDVC
Not Online (
Palmcorder
I want to...
Add a Contact
Send an Instant Message
Send a File or Photo
Make a Phone Call
Go to Chat Rooms
More

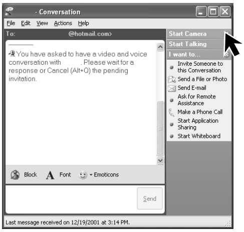

MKEDVC - Conversation
File
Edit
View
Actions
Help
To: MKEDVC <dvc_2002@hotmail.com>
Start Camera
Start Talking
I want to...
Invite Someone to this Conversation
Send a File or Photo
Send E-mail
Ask for Remote Assistance
Make a Phone Call
Start Application Sharing
Start Whiteboard
Block
Font
Emoticons
Send

Never give out your password or credit card number in an instant message conversation.

8 The person calling (inviting) side

Double-click a person to call from those currently [on-line].

- “xxxx-conversation” screen is displayed.


- Conversation
File
Edit
View
Actions
Help
To: @hotmail.com>
Start Camera
Start Talking
I want to...
Invite Someone to this Conversation
Send a File or Photo
Send E-mail
Ask for Remote Assistance
Make a Phone Call
Start Application Sharing
Start Whiteboard
Block
Font
Emoticons
Send

You have asked to have a video and voice conversation with . Please wait for a response or Cancel (Alt+Q) the pending invitation.

Last message received on 12/19/2001 at 3:14 PM.

9 The person calling (inviting) side

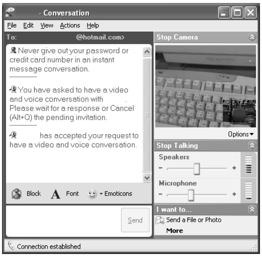
Click [Start Camera] in the “xxx-conversation” screen.

- A message inviting the other person is displayed.

The invited person side

A message asking if the person accepts or declines is displayed. **Click [Accept]** on the screen.

- To ignore the invitation, click [Decline].


- Conversation
File
Edit
View
Actions
Help
To: @hotmail.com>
Stop Camera
Options
Stop Talking
Speakers
Microphone
I want to...
Send a File or Photo
More
Block
Font
Emoticons
Send

Never give out your password or credit card number in an instant message conversation.

You have asked to have a video and voice conversation with . Please wait for a response or Cancel (Alt+Q) the pending invitation.

has accepted your request to have a video and voice conversation.

Connection established

10 At this point you may proceed with a voice/video conversation.

Note

- For other information about Windows Messenger, please refer to Help.

11 When access is finished, close Windows Messenger, then set Palmcorder POWER to OFF. Finally, disconnect the USB Cable.

Web Camera (For Windows 98SE/Me/2000 users)

For MSN Messenger Service and Windows NetMeeting (Windows 98SE/Me/2000)

When MSN Messenger Service is newly installed or when run the first time, the following settings become necessary. For more details, please read the respective Help file.

Note

- Once settings are performed, they are not required from the second time the software is run.

Before you begin

- Be sure you have a dial-up connection.
- Referring to pages 82~83, connect the Palmcorder and PC.
  Confirm that equipment is connected correctly by running the [Audio Tuning Wizard]. (p. 88)

Caution

- **For MSN Messenger Service and Windows NetMeeting, please refer to the Microsoft Home Page:**
  http://www.microsoft.com/
  http://www.msn.com/

1 **Turn on your PC.**

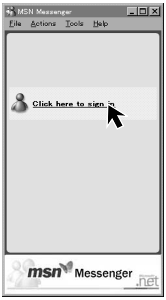
2 **Download the latest version MSN Messenger Service (4.5 or later) and Windows NetMeeting (3.01 or later)** from the Microsoft Home Page:
http://www.microsoft.com/
http://www.msn.com/

- For download instructions, please refer to Help on the Home Page.

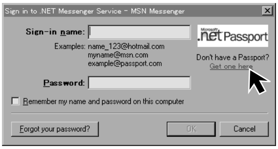
3 **Install the MSN Messenger Service.**

- Follow the instructions on the screen.

4 The first time MSN Messenger Service is run, etc., the Setup screen is displayed.
Click [Click here to sign in].
Please carefully read the contents and then proceed.


MSN Messenger
File
Actions
Tools
Help
Click here to sign in
msn Messenger .net

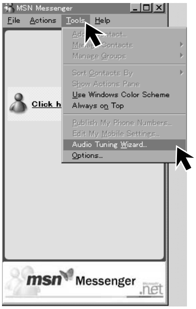
5 **Type in your Sign-in name and password.**

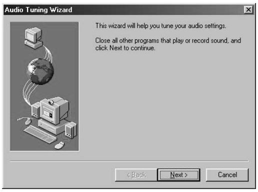

Sign in to .NET Messenger Service - MSN Messenger
Sign-in name:
Examples: name_123@hotmail.com
myname@msn.com
example@passport.com
Password:
☐ Remember my name and password on this computer
Forgot your password?
OK
Cancel
.net Passport
Don't have a Passport?
Get one here

- You'll need to get a hotmail address. If you do not have one, click on [Get one here].
  Please carefully read the displayed contents and then proceed.

There are times when a Version Upgrade screen will be displayed. However, if you are using MSN Messenger Service 4.5 or later, there is no need to upgrade.

Web Camera (For Windows 98SE/Me/2000 users)


MSN Messenger
File Actions Tools Help
Manage Contacts
Manage Groups
Sort Contacts By
Show Actions Pane
Use Windows Color Scheme
Always on Top
Publish My Phone Numbers...
Edit My Mobile Settings...
Audio Tuning Wizard...
Options...
Click h
msn Messenger .net


Audio Tuning Wizard
< Back
Next >
Cancel

This wizard will help you tune your audio settings.

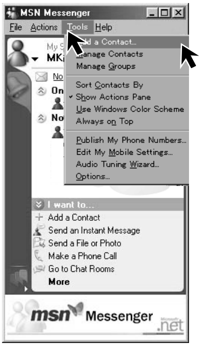
Close all other programs that play or record sound, and click Next to continue.

6 **Click on [Audio Tuning Wizard]** in the [Tools] menu.

Note

- You can set the volume for playback or mic volume, etc.
- Also, confirm that the Palmcorder and PC are connected correctly.

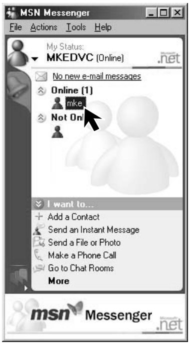
The person you wish to access needs to do settings **1**~**6** also.

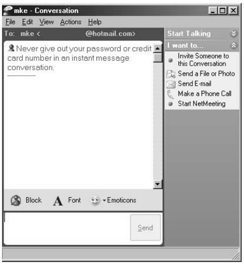

MSN Messenger
File Actions Tools Help
Add a Contact...
Manage Contacts
Manage Groups
Sort Contacts By
Show Actions Pane
Use Windows Color Scheme
Always on Top
Publish My Phone Numbers...
Edit My Mobile Settings...
Audio Tuning Wizard...
Options...
I want to...
Add a Contact
Send an Instant Message
Send a File or Photo
Make a Phone Call
Go to Chat Rooms
More
msn Messenger .net

7 **Select [Tools] -> [Add a Contact]** to register the person you wish to access in MSN Messenger Service.

- Please enter the same e-mail address that the other person has registered with MSN Messenger Service.
- After registering the e-mail address of the person you wish to access, click on [Send E-Mail] and have the person register your e-mail address as well.

You cannot call a person who is not signed-on to MSN Messenger Service.


MSN Messenger
File Actions Tools Help
My Status:
MKEDVC (Online)
No new e-mail messages
Online (1)
mke
Not Onl
I want to...
Add a Contact
Send an Instant Message
Send a File or Photo
Make a Phone Call
Go to Chat Rooms
More
msn Messenger .net


mke - Conversation
File Edit View Actions Help
To: mke < @hotmail.com>
Start Talking
I want to...
Invite Someone to this Conversation
Send a File or Photo
Send E-mail
Make a Phone Call
Start NetMeeting
Block
Font
Emoticons
Send

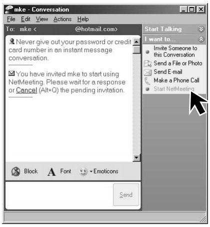
Never give out your password or credit card number in an instant message conversation.

8 **The person calling (inviting) side**

Double-click a person to call from those currently [on-line].

- “xxxx-conversation” screen is displayed.

Web Camera (For Windows 98SE/Me/2000 users)


mke - Conversation
File Edit View Actions Help
To: mke < @hotmail.com>
Start Talking
I want to...
Invite Someone to this Conversation
Send a File or Photo
Send E-mail
Make a Phone Call
Start NetMeeting
Block
Font
Emoticons
Send

Never give out your password or credit card number in an instant message conversation.

You have invited mke to start using NetMeeting. Please wait for a response or Cancel (Alt+Q) the pending invitation.

9

The person calling (inviting) side

Click [Start NetMeeting] in the “xxx-conversation” screen.

The invited person side

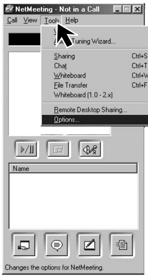
The Instant Message screen appears and a confirmation message is displayed. Click on [Accept].

The NetMeeting screen is automatically opened.

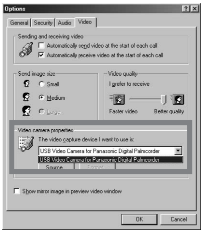
Note

The first time Windows NetMeeting is run, etc., the Setup screen is displayed. Please carefully read the contents and then proceed.

The user information, etc. is input. Following the directions, please complete the settings.


NetMeeting - Not in a Call
Call View Tools Help
Audio Tuning Wizard...
Sharing Ctrl+S
Chat Ctrl+T
Whiteboard Ctrl+W
File Transfer Ctrl+F
Whiteboard (1.0 - 2.x)
Remote Desktop Sharing...
Options...
Name

Changes the options for NetMeeting.


Options
General Security Audio Video
Sending and receiving video
Send image size
Small
Medium
Large
Video quality
I prefer to receive
Faster video
Better quality
Video camera properties
Source
Format
OK
Cancel

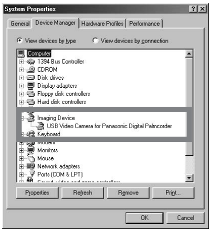
☐ Automatically send video at the start of each call

☑ Automatically receive video at the start of each call

● Medium

The video capture device I want to use is: USB Video Camera for Panasonic Digital Palmcorder

☐ Show mirror image in preview video window


System Properties
General Device Manager Hardware Profiles Performance
View devices by type
View devices by connection
Computer
1394 Bus Controller
CDROM
Disk drives
Display adapters
Floppy disk controllers
Hard disk controllers
Imaging Device
USB Video Camera for Panasonic Digital Palmcorder
Keyboard
Modem
Monitors
Mouse
Network adapters
Ports (COM & LPT)
Properties
Refresh
Remove
Print...
OK
Cancel

10 **Click on [Options]** in the [Tools] menu to confirm Video Camera Properties.

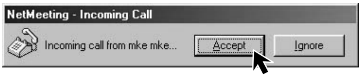
- If Video is not recognized in Video Camera Properties, select Control Panel, System, Device Manager, and finally Image Device for confirmation.

11

The invited person side

A message asking if the person accepts or declines is displayed. **Click [Accept]** on the screen.

- To ignore the invitation, click [Decline].

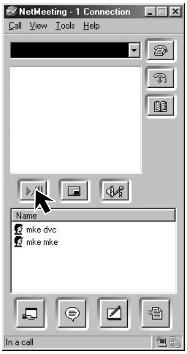

NetMeeting - Incoming Call
Accept
Ignore

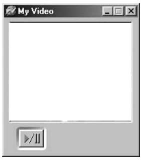
Incoming call from mke mke...

12

The person calling (inviting) side

“Incoming-Call” screen is displayed. **Click on [Accept].**


NetMeeting - 1 Connection
Call View Tools Help
Name
mke dvc
mke mke
In a call



13

The invited person side
The person calling (inviting) side

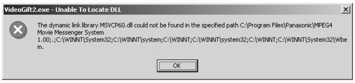
The real-time live picture displayed in the video camera is displayed on both yours and the other person’s window screen.

Note

- If the picture is not displayed, click ▶/II several times on the screen.
- For other information about MSN Messenger Service and Windows NetMeeting, please refer to Help.

14 When access is finished, close MSN Messenger Service and Windows NetMeeting, then set Palmcorder POWER to OFF.
Finally, disconnect the USB Cable.

Windows 2000



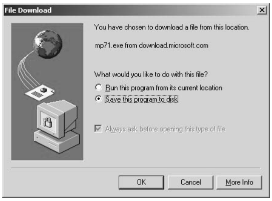
VideoGift2.exe - Unable To Locate DLL

The dynamic link library MSVCP60.dll could not be found in the specified path C:\Program Files\Panasonic\MPEG4 Movie Messenger System 1.00;.;C:\WINNT\System32;C:\WINNT\system;C:\WINNT;C:\WINNT\system32;C:\WINNT;C:\WINNT\System32\Wbem.

In Windows 2000, startup PHOTOVU/ MPEG4 Movie Messenger System. Clicking on [VideoGift] may cause the type of error to occur to the left. If so, please perform the following instructions.

Download and install Media Player (7.1 or later), go to http://www.microsoft.com/windows/ mediaplayer (current as of Dec. 28, 2001).

- “Windows Media. com: Download” is opened.



File Download

You have chosen to download a file from this location.

mp71.exe from download.microsoft.com

What would you like to do with this file?

○ Run this program from its current location
● Save this program to disk

☑ Always ask before opening this type of file

Click [Download Now!] on the screen.

- The “File Download” screen is displayed. Then, follow the instructions on the screen.

Transferring Your Images (Macintosh)

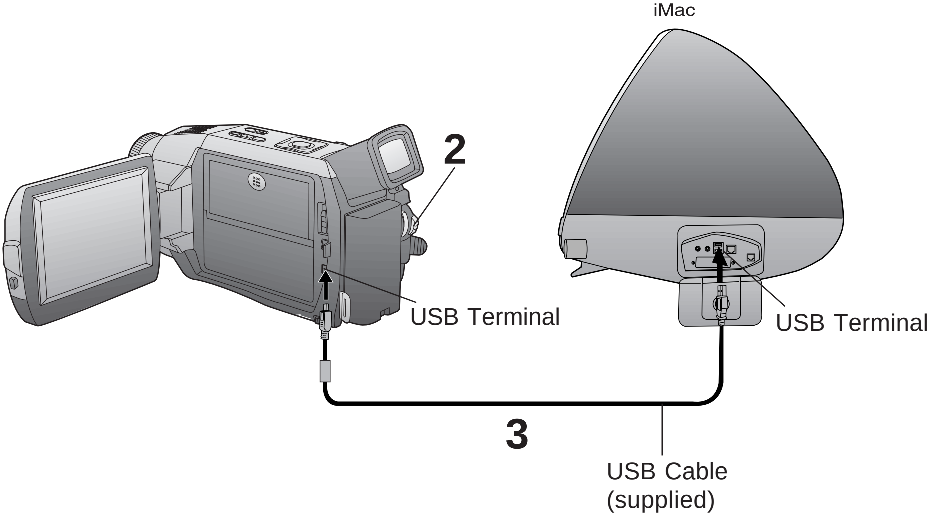
You can transfer images from your Palmcorder tape to your Macintosh.

System Requirements (for Built-in SD Drive/ArcSoft Software)

- Mac OS 9.0~9.1
- Mac OS 8.6~9.1 (for ArcSoft Software)
- iMac, iBook or Power Macintosh G3 with USB port or Power Mac G4
- RAM: 64 MB or more
- CD-ROM drive (for installation)
- USB Port
- Mouse or other pointing device
- 210 MB minimum available hard disk space (for ArcSoft Software)
- High color (16 bit) or more (for ArcSoft Software)

* Even if system requirements are met, there is no guarantee that the included software will work on all personal computers.

Connection



1 **Turn on your PC.**

2 **Set the Palmcorder POWER to M-CARD.**

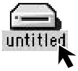
3 **Connect the Palmcorder to your Macintosh** using the USB Cable (supplied).

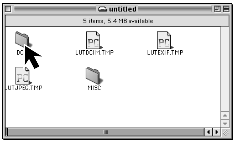
Note

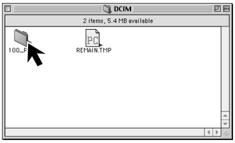
- For extended use, it is recommended that you use the AC Adaptor as a power source.

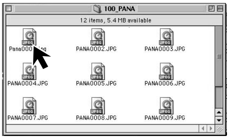
Transferring Your Images (Macintosh)

Using Built-in SD Drive




untitled
5 items, 5.4 MB available
DC
LUTDCIM.TMP
LUTEXIF.TMP
LUTJPEG.TMP
MISC


DCIM
2 items, 5.4 MB available
100_P
REMAIN.TMP


100_PANA
12 items, 5.4 MB available
Pana000
PANA0002.JPG
PANA0003.JPG
PANA0004.JPG
PANA0005.JPG
PANA0006.JPG
PANA0007.JPG
PANA0008.JPG
PANA0009.JPG

Before you begin

- Set POWER to OFF before inserting a recorded Memory Card. (pp. 48, 49)

1 **Set the Palmcorder POWER to M-CARD.**

2 **Connect the Palmcorder to your Macintosh** using the USB Cable (supplied). (p. 91)
- "PLEASE WAIT", "CONNECT WITH PC", and "STORAGE" is displayed on the LCD monitor.

3 **Double click the "Untitled" icon.**
- You can view images stored on the Memory Card and also save them to your hard disk.

4 Follow the instructions as they appear on your Macintosh section screen.

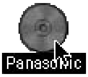
Note

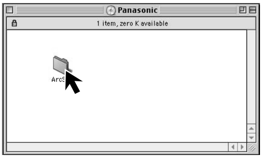
- Please do not change file or folder names on the PC. The images on the Memory Card may not be able to be viewed on the Palmcorder.
- When "ACCESS" is displayed in the EVF or LCD monitor, please do not remove the Memory Card or USB Cable, or turn off the power as data may be damaged.

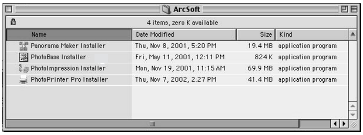
ArcSoft applications Installation

- For information on ArcSoft (U.S.A.) applications:

TEL : 1-510-440-9901
FAX : 1-510-440-1270
Web Site : http://www.arcsoft.com
E-mail : support@arcsoft.com




Panasonic
1 item, zero K available
ArcS


ArcSoft
4 items, zero K available

Name	Date Modified	Size	Kind
Panorama Maker Installer	Thu, Nov 8, 2001, 5:20 PM	19.4 MB	application program
PhotoBase Installer	Fri, May 11, 2001, 12:11 PM	824 K	application program
PhotoImpression Installer	Mon, Nov 19, 2001, 11:15 AM	69.9 MB	application program
PhotoPrinter Pro Installer	Thu, Nov 7, 2002, 2:27 PM	41.4 MB	application program

1 **Turn on the Macintosh.**

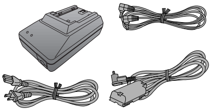
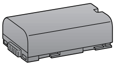
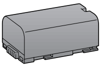
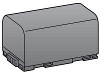
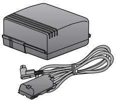
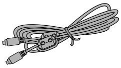
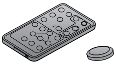
2 **Insert the supplied Software CD-ROM into the CD-ROM Drive.**

3 **Double click the "Panasonic" icon. Double click the "ArcSoft" Folder.**

4 **Double click the "Panorama Maker Installer," "PhotoBase Installer," "PhotoImpression Installer," and "PhotoPrinter Pro Installer."**

5 Follow the instructions as they appear on your Macintosh section screen.

Palmcorder Accessory System

Accessory #	Figure	Description
PV-DAC11A		AC Adaptor with AC Cable and DC Cable
CGR-D08A/1B		800mAH / 1 h 30 min, Battery Pack
CGR-D16A/1B		1 600mAH / 3 h, Battery Pack
CGP-D28A/1B		2 800mAH / 5 h, Battery Pack
CGR-D53A/1K		5 300mAH / 9 h, Battery Pack
PV-DDC9		DV Interface Cable (i.LINK) (4-pin to 4-pin)
PV-DRC9		IR Remote Control
RP-SD064BPPA RP-SD032BPPA RP-SD016BPPA	Panasonic SD	64 MB SD Memory Card 32 MB SD Memory Card 16 MB SD Memory Card
BN-SDCAPE/1B	Panasonic SD	SD USB Reader/Writer (compatible with MultiMediaCard)
BN-SDABPE/1B	Panasonic SD ADAPTER	SD PCMCIA Adaptor (compatible with MultiMediaCard)

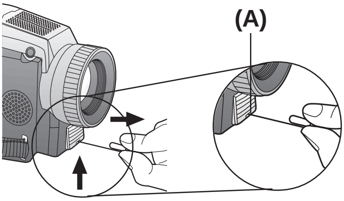
Notes On Operations

Replacing the Bulb

Before you begin

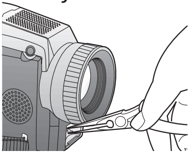
- Set POWER to OFF.

1 **Insert a rigid wire, such as an extended paper clip into point (A) and lift cover up.**

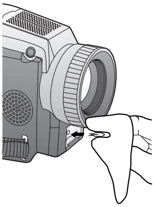


2 **Using Tweezers or needle-nose pliers, carefully remove bulb.**

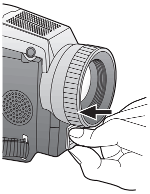
- Take unit to servicenter if you need assistance.



3 **Replace bulb using a clean cloth or tissue. (Do not touch with fingers.)**



4 **Replace lens cover.**



Note

- Handle bulb gently. Excessive force may cause bulb to crack.

DANGER:

Use only replacement bulb (PART NO. LSLL0028) supplied by Panasonic to reduce risk of fire. Handle new bulb with cloth or tissue as skin oils decrease bulb life. Remove lens cover and allow bulb to cool before replacing to avoid possible burn hazard.

About the Memory Card (MultiMediaCard and SD Memory Card)

- Model PV-DV202/PV-DV402 can be used with either a MultiMediaCard or a SD Memory Card.
- Both of these exterior Memory Cards (MultiMediaCard and SD Memory Card) are lightweight and removable.
- Both Memory Cards (MultiMediaCard and SD Memory Card) are offered in a variety of memory sizes, so you can purchase a higher capacity Memory Card if desired.

Notes On Operations

Approximate Brightness Values

Your Palmcorder has been designed for normal scene illumination of 150 footcandles (1500 lx). However, the Palmcorder may be used at F1:1.8, if illumination is more than 0.5 footcandles (5 lx).
The table below shows the color temperature for reference.

PALMCORDER SETTINGS	NATURAL LIGHT CONDITIONS	KELVIN COLOR TEMPERATURE	ARTIFICIAL LIGHT SOURCE	COLOR TINT MIXTURE
(Amber Filter Range)	• Fair weather, blue sky	10,000	• Color television	Bluish
	• Slightly cloudy sky	8,000		
	• Cloudy or rainy sky	7,000		
		6,500	• Fluorescent lamp (Daylight)	
	• Sunlight in clear weather at midday	6,000	• Camera flash bulb	
		5,500		
“OUTDOOR”	• Average sunlight in clear weather	5,000	• Blue lamp for photography	
“AUTO”	• Sunlight 2 hours after sunrise and before sunset	4,500	• Fluorescent lamp (White)	Whitish
		4,000	• Normal flash bulb	
		3,500	• Fluorescent lamp (Off-white)	
“INDOOR”	• Sunlight 40 min. after sunrise and before sunset	3,200	• Tungsten lamp for photography	
	• Sunlight 30 min. after sunrise and before sunset	2,800	• Halogen lamp • Iodine lamp	
(Blue Filter Range)	• Sunlight 20 min. after sunrise and before sunset		• Tungsten lamp • Acetylene lamp • Kerosene lamp	Yellowish
		2,000	• Candlelight	Reddish

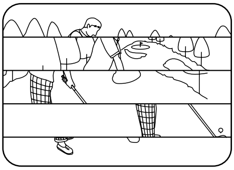
Specifications

Power Source:	Palmcorder: 7.2 V DC (Battery) 7.8 V DC (AC Adaptor) AC Adaptor: 110/120/220/240 V AC, 50/60 Hz Battery: Lithium-Ion Type DC 7.2 V
Power Consumption:	Palmcorder : 7.2 V/7.8 V DC 6.5 W (Max. 9.5 W) AC Adaptor : 18 W 1 W (when not in use.)
Digital Interface	USB/i.LINK (IEEE1394)
Video Signal:	EIA Standard (525 lines, 60 fields) NTSC color signal
Video Recording System:	2 rotary heads, helical scanning system
Audio:	12 bit (32 kHz) 4 tracks 16 bit (48 kHz) 2 tracks
Pick-Up System and Device:	One integral color filter Charge Coupled Device (CCD)
Lens:	10:1 zoom lens, F1:1.8 with auto iris control Focal length: 3.6 mm - 36 mm Power zoom function Lens filter diameter: 43 mm
Viewfinder:	5.3 mm (0.21 inch) Liquid Crystal Electronic Viewfinder
LCD Monitor:	63.5 mm (2.5 inch) Liquid Crystal Display **(PV-DV202)** 88.9 mm (3.5 inch) Liquid Crystal Display **(PV-DV402)**
Minimum Illumination Required:	5 lx (F1:1.8) 0.5 footcandles 0 lx (MAGICVU/0LUX ON) **(PV-DV402 only)**
Memory (Still image)	MultiMediaCard/SD Memory Card 640 x 480 pixels (NORMAL mode) 1280 x 960 pixels (FINE mode)
Image Storage (supplied 8 MB Memory Card)	Approx. 70 images (NORMAL mode) Approx. 30 images (FINE mode)
Image Format	JPEG (Design Rule for Camera File System)
Operating Temperature:	32 °F~104 °F (0 °C~40 °C)
Operating Humidity:	10 %~75 %
Weight:	Palmcorder : **(PV-DV202/402)** 0.58 kg 1.28 lbs. AC Adaptor : 0.16 kg 0.35 lbs.
Dimensions:	Palmcorder : **(PV-DV202/402)** 88.5 (W) x 74 (H) x 185 (D) mm 3-1/2 (W) x 2-7/8 (H) x 7-5/16 (D) inch AC Adaptor : 70 (W) x 45 (H) x 115 (D) mm 2-3/4 (W) x 1-3/4 (H) x 4-1/2 (D) inch

Weight and dimensions shown are approximate.
Designs and specifications are subject to change without notice.

Before Requesting Service

Cleaning Care for Video Heads



Clogged Video Head

(a) Video Head Cleaning: Normally, your Palmcorder will not require head cleaning. However, it is possible that the heads may become clogged due to dust in the air, playing damaged tapes, long term use, etc. If “NEED HEAD CLEANING” appears for 5 seconds in the EVF or LCD monitor, the heads may require cleaning.

(b) Cleaning the Heads: It is recommended that head cleaning be performed by a qualified service technician. Please contact your nearest Panasonic Servicenter. An alternate solution is to obtain a head cleaning cassette. Please use Panasonic cleaning cassette (AY-DVMCLA). Be sure to follow the cleaning instructions carefully. Excessive use of the head cleaning cassette could shorten video head life.
Use this cassette only when a head clogging symptoms occur.

Refer servicing to qualified service personnel.

Tape Operations Caution

- When you go from function to function (PLAY, FF, REW etc.), please note that the unit will not accept a new function operation until the previous operation is complete.
- The POWER Button and all function buttons, (PLAY, FF, REW, etc.) are only operational after the tape has been completely loaded.

Lens Hood Area Operation Caution

When the following accessories are attached and the zoom is set to maximum wide angle, the four corners of the sceen may appear darker:

- Wide or Telephoto conversion lens (optional).
- A filter (optional), etc. and then the lens hood.
- Two filters (optional).

Before Requesting Service

If you have a problem with your Palmcorder, it may be something you can correct yourself.
Check the list below for symptoms and corrections.

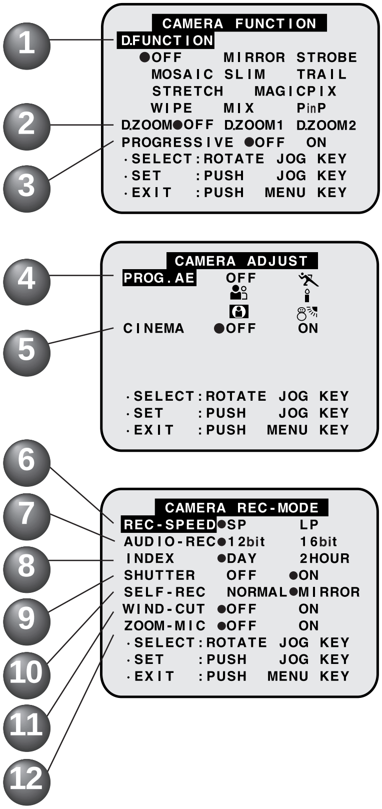
Symptom	Correction
No picture in the EVF or LCD Monitor...	• Make sure the Power Source is connected. (pp. 14, 15) • Make sure the POWER switch is set to VCR or CAMERA. (pp. 18, 32) • Check the Dew Indicator. (p. 99) • Make sure the Battery is fully charged. (p. 14) • Make sure all necessary cables are connected correctly and firmly. (p. 15) • Make sure the Lens Cap is removed. (p. 18)
Video cassette cannot be inserted...	• Make sure the Power Source is connected. (pp. 14, 15) • Insert the cassette record tab up, window side facing out. (p. 11)
Video cassette cannot be removed...	• Make sure the Power source is connected. (pp. 14, 15)
No operation starts when operation buttons are pressed...	• Check the Dew Indicator. (p. 99)
Recording cannot be done...	• Make sure the record tab is closed. (p. 7) • Check the Battery Indication. (p. 105)
Auto Focus does not operate...	• Make sure FOCUS is set to AUTO. (p. 29) • Make sure the unit is ON and set to CAMERA mode. (p. 18)
Sound from microphone cannot be monitored...	• Make sure the unit is set to REC or REC/PAUSE mode.
Sound cannot be heard...	• Make sure the Audio on the VCR MENU is set to ST1. (pp. 45, 103)

The following warning displays appear in the EVF and the LCD monitor.

Indications	Condition
📼 TAPE NOT INSERTED	If the Palmcorder is in CAMERA mode without a cassette inserted, “📼” will flash and “TAPE NOT INSERTED” will appear for 5 seconds. Recording will not start.
📼 CHECK REC TAB	If the Palmcorder is in CAMERA mode or Audio dub mode with the cassette sliding record tab opened, “📼” will flash and “CHECK REC TAB” will appear for 5 seconds. Recording will not start.
📼 CANNOT REC	When Audio dub is performed and the recording is other than NTSC format, “📼” will flash and “CANNOT REC” will appear for 5 seconds.
📼 END TAPE END	When the tape is about to end in REC mode, “📼 END” will flash and “TAPE END” will appear for 5 seconds.
INCOMPATIBLE TAPE	When an incompatible tape is detected, “INCOMPATIBLE TAPE” will appear for 5 seconds.
NEED HEAD CLEANING	If the video heads require cleaning, “NEED HEAD CLEANING” will appear for 5 seconds.
REMOTE	When the Palmcorder and remote are not set to the same mode (VCR1 or VCR2), “CHECK REMOTE MODE (REMOTE)” appears for 5 seconds. It also appears when the Palmcorder is first turned on.
CANNOT REC LP-MODE	When an AUDIO DUB is attempted on a pre-recorded LP tape, “CANNOT REC LP-MODE” will appear for 5 seconds.
WARNING DEW DETECTED	If excessive moisture condenses in the unit, “WARNING” will flash, “DEW DETECTED” will appear, and the Palmcorder will automatically turn OFF in 15 seconds. In this case, wait until the indicator no longer flashes when your Palmcorder is turned ON again.
🔋 WARNING LOW BATTERY	When a battery recharge is necessary, “WARNING” will flash, “LOW BATTERY” will appear, and the Palmcorder will automatically turn OFF in 15 seconds. (p. 105)
CLOCK BATTERY	When the built-in lithium clock battery is discharged, “CLOCK BATTERY” will appear. To re-charge the lithium clock battery, connect the AC Adaptor to the Palmcorder. Recharging takes approx. 4 hours. Reset the clock after charging.

Indications	Condition
INCOMPATIBLE DATA	If you play a tape recorded in a format other than NTSC or you try to copy copy-protected data, “INCOMPATIBLE DATA” will appear.
NO SPACE LEFT	When a still image is transferred from a tape to an already full Memory Card, or when setting is DPOF, “NO SPACE LEFT” appears.
DISCONNECT DV CABLE	If the Palmcorder is in M-CARD mode or Photo Title (CAMERA mode) and the DV Interface Cable (i.LINK) is connected, “DISCONNECT DV CABLE” appears. In this case, remove the DV Interface Cable (i.LINK) from the Palmcorder.
WRITE PROTECTED	In M-CARD mode, this display appears if the SD Memory Card Lock Switch is in the Lock position.

Camera Mode Menu Screen



```
CAMERA FUNCTION
D.FUNCTION
  ●OFF     MIRROR  STROBE
   MOSAIC  SLIM    TRAIL
   STRETCH   MAGICPIX
   WIPE    MIX     PinP
D.ZOOM●OFF D.ZOOM1 D.ZOOM2
PROGRESSIVE ●OFF   ON
·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```

```
CAMERA ADJUST
PROG.AE      OFF
CINEMA      ●OFF      ON

·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```

```
CAMERA REC-MODE
REC-SPEED●SP       LP
AUDIO-REC●12bit    16bit
INDEX    ●DAY      2HOUR
SHUTTER   OFF     ●ON
SELF-REC  NORMAL●MIRROR
WIND-CUT ●OFF      ON
ZOOM-MIC ●OFF      ON
·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```

1 **D.FUNCTION** (pp. 41, 43)
To select one of the 10 digital functions.
Setting to OFF cancels the previously selected digital function.

2 **D.ZOOM** (p. 40)
To select D.ZOOM1 (from 10X to 25X) or D.ZOOM2 (from 10X to 700X).
Setting to OFF cancels the previously selected digital zoom.

3 **PROGRESSIVE** (p. 20)
When set to ON, still pictures taken with PhotoShot are recorded with a higher resolution than with normal PhotoShot.

4 **PROG.AE** (p. 24)
To select one of the 5 Program AE modes. Setting to OFF cancels the previously selected Program AE mode.

5 **CINEMA** (p. 23)
When set to ON, you can record a picture compatible with a wide-screen TV equipped with an S2 picture terminal.

6 **REC-SPEED** (pp. 7, 18)

SP: Normal recording speed mode.

LP: Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on a 80 minute tape.

7 **AUDIO-REC** (p. 44)

12 bit: The sound is recorded in the 12 bit/32 kHz mode.

16 bit: The sound is recorded in the 16 bit/48 kHz high-quality mode.

8 **INDEX**

DAY: An index signal is recorded when recording is restarted after the date has changed since the last recording.

2 HOUR: An index signal is recorded when recording is restarted after a lapse of more than 2 hours.

9 **SHUTTER** (pp. 20, 48)
When set to ON, still pictures taken in the PhotoShot mode are recorded with a visual shutter effect and click sound.

10 **SELF-REC** (p. 22)

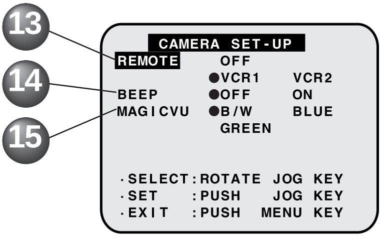
NORMAL: During self-recording, the picture on the LCD Monitor is the same as it will be when recorded.

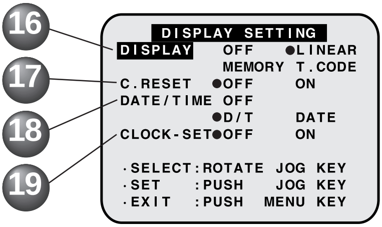
MIRROR: During self-recording, the picture on the LCD Monitor is horizontally reversed.

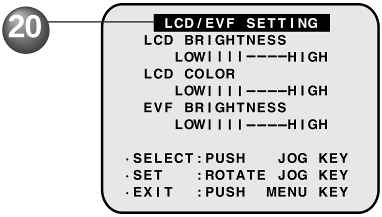
11 **WIND-CUT** (p. 31)
To reduce sound distortion caused by wind hitting the microphone.

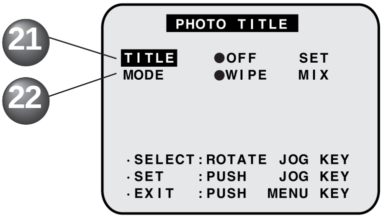
12 **ZOOM-MIC** (p. 21)
When set to ON, the microphone's directional angle and sensitivity vary according to the zoom operation.

MENU OSD


13
14
15
CAMERA SET-UP
REMOTE OFF
●VCR1 VCR2
BEEP ●OFF ON
MAGICVU ●B/W BLUE
GREEN
·SELECT:ROTATE JOG KEY
·SET :PUSH JOG KEY
·EXIT :PUSH MENU KEY


16
17
18
19
DISPLAY SETTING
DISPLAY OFF ●LINEAR
MEMORY T.CODE
C.RESET ●OFF ON
DATE/TIME OFF
●D/T DATE
CLOCK-SET●OFF ON
·SELECT:ROTATE JOG KEY
·SET :PUSH JOG KEY
·EXIT :PUSH MENU KEY


20
LCD/EVF SETTING
LCD BRIGHTNESS
LOW||||----HIGH
LCD COLOR
LOW||||----HIGH
EVF BRIGHTNESS
LOW||||----HIGH
·SELECT:PUSH JOG KEY
·SET :ROTATE JOG KEY
·EXIT :PUSH MENU KEY


21
22
PHOTO TITLE
TITLE ●OFF SET
MODE ●WIPE MIX
·SELECT:ROTATE JOG KEY
·SET :PUSH JOG KEY
·EXIT :PUSH MENU KEY

13 **REMOTE** (p. 10)

VCR1: To receive signals from the Remote Control, set to VCR1.

VCR2: To receive signals from the Remote Control, set to VCR2.

OFF: To prevent reception of signals from the Remote Control.

14 **BEEP**

Set to ON to hear beep when starting and stopping camera recording or when unusual conditions occur. To cancel the beep, set to OFF.

Palmcorder will beep:
Once when you start recording
Twice when you stop recording
Repeatedly when warning of unusual conditions.
(pp. 99, 100)

15 **MAGICVU (PV-DV402 only)** (p. 25)

To select one of the 3 MagicVu modes slide MAGICVU/0LUX Switch to ON.

16 **DISPLAY** (p. 106)

To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder.

17 **C.RESET** (p. 106)

Setting to ON resets the counter to zero.

18 **DATE/TIME** (p. 105)

The date and time can be set and displayed on the screen.

19 **CLOCK-SET** (p. 16)

When set to ON, the date and time can be set on the screen.

20 **LCD/EVF SETTING** (p. 19)

Setting to ON displays the menu for adjusting the LCD brightness, color level, and the EVF brightness.

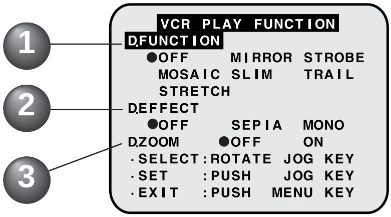
21 **TITLE** (p. 27)

Photo Title is recorded.

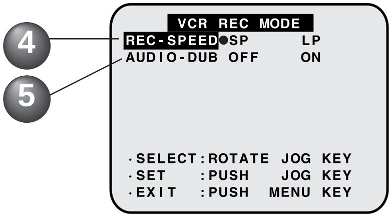
22 **MODE** (p. 27)

To select one of the 2 Photo Title modes.

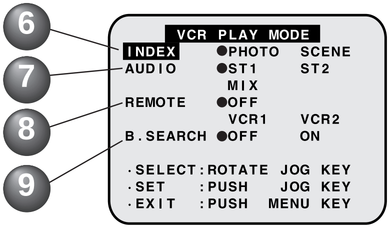
VCR Mode Menu Screen



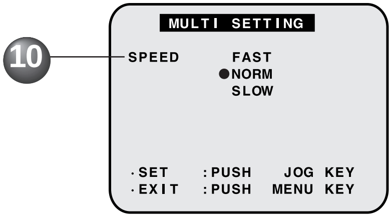
```
        VCR PLAY FUNCTION
D.FUNCTION
   ●OFF     MIRROR STROBE
    MOSAIC SLIM    TRAIL
    STRETCH
D.EFFECT
   ●OFF      SEPIA  MONO
D.ZOOM     ●OFF     ON
·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```



```
       VCR REC MODE
REC-SPEED●SP       LP
AUDIO-DUB OFF      ON




·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```



```
       VCR PLAY MODE
INDEX      ●PHOTO   SCENE
AUDIO      ●ST1     ST2
            MIX
REMOTE     ●OFF
            VCR1    VCR2
B.SEARCH   ●OFF     ON

·SELECT:ROTATE JOG KEY
·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```



```
       MULTI SETTING

SPEED        FAST
            ●NORM
             SLOW




·SET   :PUSH   JOG KEY
·EXIT  :PUSH  MENU KEY
```

1 **D.FUNCTION** (p. 43)
To select one of the 6 digital functions.

Setting to OFF cancels the previously selected digital function.

2 **D.EFFECT** (p. 43)
To select one of the 2 digital picture effects for playback. Setting to OFF cancels the previously selected digital effect.

3 **D.ZOOM** (p. 41)
Set to ON to double the size of a playback image. Setting to OFF cancels the previously selected digital zoom.

4 **REC-SPEED** (p. 7)
SP: Normal recording speed mode.
LP: Recording time is 1.5 times as long as in the SP mode. For example, 120 minutes of recording is possible on an 80 minute tape.

5 **AUDIO-DUB** (p. 44)
Set to AUDIO-DUB “ON” in the Menu OSD to use the Audio Dub feature.

6 **INDEX** (pp. 36, 37)
To select the desired Index Search function.

PHOTO: To search for Photo shot pictures.

SCENE: To search for scenes marked with Index signal.

7 **AUDIO** (p. 45)
To select the desired audio playback mode after performing audio dubbing in the 12 bit mode (SP mode only).

ST1 : The original sound alone is played back.

ST2 : The dubbed sound alone is played back.

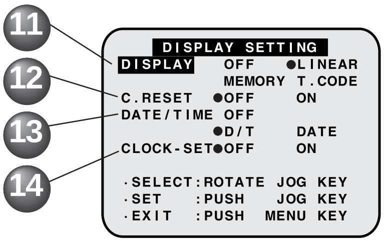
MIX : The original sound and the dubbed sound are played back together.

8 **REMOTE** (p. 10)
VCR1 : To receive signals from the Remote Control, set to VCR1.
VCR2 : To receive signals from the Remote Control, set to VCR2.
OFF : To prevent reception of signals from the Remote Control.

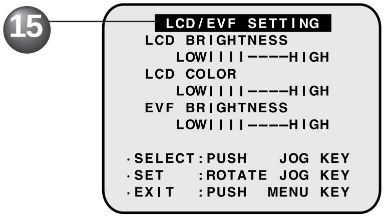
9 **B.SEARCH (Blank Search)** (p. 33)
Select ON to go directly to a blank portion of the tape.

10 **SPEED** (p. 38)
In Strobe Multi mode, used to select the interval at which a succession of still screens are captured from the playback picture.
FAST : Every 0.3 seconds
NORM : Every 0.6 seconds
SLOW : Every 1.0 seconds

MENU OSD



```
DISPLAY SETTING
DISPLAY    OFF     ●LINEAR
           MEMORY  T.CODE
C.RESET   ●OFF      ON
DATE/TIME  OFF
          ●D/T      DATE
CLOCK-SET●OFF       ON

·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```



```
LCD/EVF SETTING
  LCD BRIGHTNESS
     LOW||||----HIGH
  LCD COLOR
     LOW||||----HIGH
  EVF BRIGHTNESS
     LOW||||----HIGH

·SELECT:PUSH    JOG KEY
·SET   :ROTATE  JOG KEY
·EXIT  :PUSH   MENU KEY
```

⑪ **DISPLAY** (p. 106)
To select the desired type of display and counter indication displayed on the LCD Monitor or in the viewfinder.

⑫ **C.RESET** (p. 106)
Setting to ON resets the counter to zero.

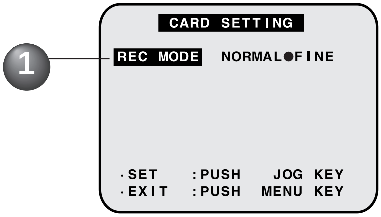
⑬ **DATE/TIME** (p. 105)
The date and time can be set and displayed on the screen.

⑭ **CLOCK-SET** (p. 16)
When set to ON, the date and time can be set on the screen.

⑮ **LCD/EVF SETTING** (p. 19)
Setting to ON displays the menu for adjusting the LCD brightness, color level, and the EVF brightness.

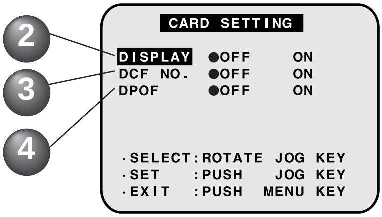
M-CARD Mode Menu Screen

[Photo Rec Mode Menu Screen]

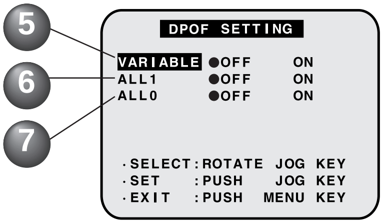


```
CARD SETTING

REC MODE    NORMAL●FINE




·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

[Photo Play Mode Menu Screen]



```
CARD SETTING

DISPLAY   ●OFF     ON
DCF NO.   ●OFF     ON
DPOF      ●OFF     ON


·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```



```
DPOF SETTING

VARIABLE  ●OFF     ON
ALL1      ●OFF     ON
ALL0      ●OFF     ON


·SELECT:ROTATE  JOG KEY
·SET   :PUSH    JOG KEY
·EXIT  :PUSH   MENU KEY
```

① **REC MODE** (p. 48)
To select Photo Rec Mode.

② **DISPLAY** (p. 108)
Select to OFF to cancel all Displays on the screen.

③ **DCF NO.** (pp. 50, 108)
Set to OFF to cancel DCF (Design rule for Camera File system) No. on the screen.

④ **DPOF** (pp. 54, 108)
When set to ON, information of the image to be printed and the number of prints desired (DPOF data) is written to the Memory Card.

⑤ **VARIABLE** (p. 54)
When set to ON, you can select images recorded on the Memory Card and set the number of prints desired.

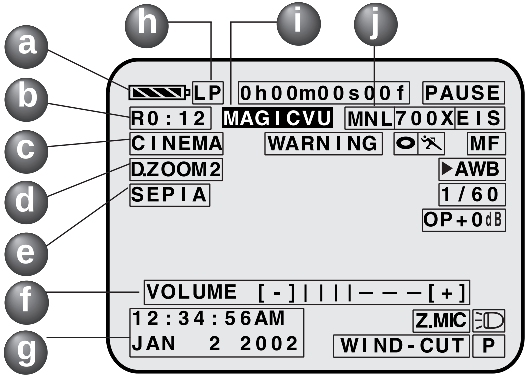
⑥ **ALL1** (p. 54)
When set to ON, the number of prints recorded on the Memory Card is collectively set to 1.

⑦ **ALL0** (p. 54)
When set to ON, the currently set number of prints is set to 0.

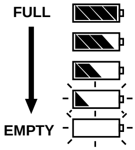
Electronic Viewfinder/LCD Monitor Indications

Here are some of the basic indications which will appear on the Palmcorder EVF and LCD Monitor. Only Date and Time indications will be recorded onto the tape.

CAMERA/VCR Mode

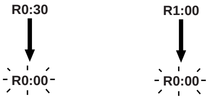

a
b
c
d
e
f
g
h
i
j
LP
0h00m00s00f
PAUSE
R0:12
MAGICVU
MNL
700X
EIS
CINEMA
WARNING
MF
D.ZOOM2
AWB
SEPIA
1/60
OP+0dB
VOLUME [-]||||———[+]
12:34:56AM
JAN 2 2002
Z.MIC
WIND-CUT
P

a **Battery Remaining**



b **Tape Remaining**

(AY-DVM30EA) **(AY-DVM60EA)**


R0:30
R0:00
R1:00
R0:00

- It will take several seconds for the tape remaining indicator to operate after the tape starts moving.

c **CINEMA Indication**
(Menu OSD: p. 101)

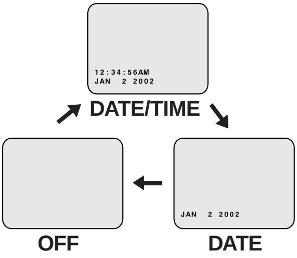
d **Digital Zoom and other Digital Functions** (Menu OSD: p. 101)
This display appears when the digital zoom function has been activated.

e **Playback Effect** (Menu OSD: p. 103)
This display appears when SEPIA or MONO is selected in VCR menu.

f **Volume Display** (p. 33)
The volume bar appears when the volume of the built-in speaker is being adjusted.

g **Date and Time Indication**
(Menu OSD: pp. 102, 104)

As shown below, the date and time indication changes each time DATE/TIME is selected from the Palmcorder's MENU (Menu OSD: pp. 102, 104) or the DATE/TIME Button is pressed on the remote.


12:34:56AM
JAN 2 2002
DATE/TIME
JAN 2 2002
OFF
DATE

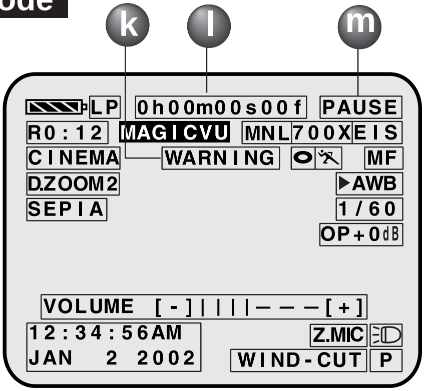
h **Tape Speed Indication**
(Menu OSD: p. 101)
Indicates the tape speed (SP or LP).

i **MAGICVU (PV-DV402 only)**
(Menu OSD: p. 102)
This display appears when MAGICVU is set to ON.

j **MNL Indication** (pp. 28~31)
This display appears when AUTO/MANUAL is pressed to MANUAL.

Electronic Viewfinder/LCD Monitor Indications

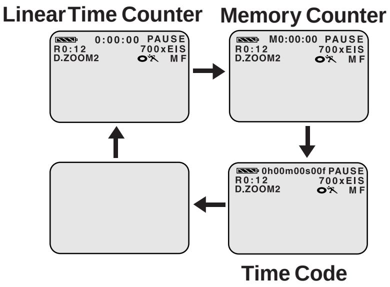
CAMERA/VCR Mode


k
l
m
LP
0h00m00s00f
PAUSE
R0:12
MAGICVU
MNL
700X
EIS
CINEMA
WARNING
MF
D.ZOOM2
AWB
SEPIA
1/60
OP+0dB
VOLUME [-]||||———[+]
12:34:56AM
JAN 2 2002
Z.MIC
WIND-CUT
P

k **WARNING Indication** (pp. 99, 100)
The warning displays appear in the EVF and the LCD monitor.

l **Display ON/OFF and Counter/Time Code**
The indication switches as shown below when the desired “DISPLAY” mode is selected from the menu.
(Menu OSD: pp. 102, 104)

- When OFF is selected, all displays are turned off.


Linear Time Counter
Memory Counter
Time Code
0:00:00 PAUSE
R0:12 700xEIS
D.ZOOM2 MF
M0:00:00 PAUSE
0h00m00s00f PAUSE

Memory Counter M 0:00:00
The Palmcorder will stop whenever it reaches the point where the counter was previously set to M 0:00:00 during audio dub, fast forward, or rewind.

Time Code 0h00m00s00f
The Palmcorder calculates and displays exactly where you are on any tape in terms of hours, minutes, seconds, and frames (30 frames = 1 second).

- This display cannot be reset.

IMPORTANT NOTE:

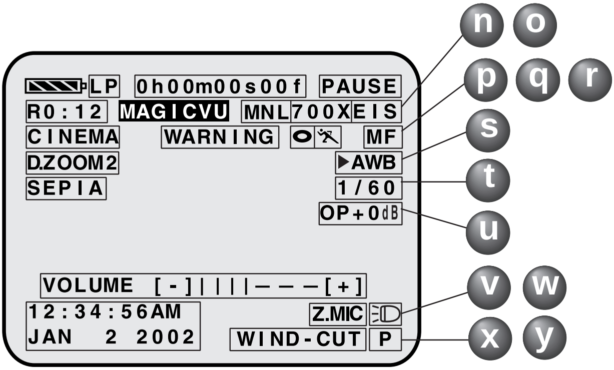
- Display must be set to ON for MF, AE, W.BALANCE or BACK LIGHT indications to be displayed on the EVF or LCD Panel when selected.
- C.RESET does not work when DISPLAY is set to OFF and T.CODE.

m **Tape Mode Indications**

REC	Recording.
PHOTO	PhotoShot recording.
PAUSE	Paused during recording.
▷	Playback.
‖	Still.
I▷	Slow (forward).
◁I	Slow (reverse).
II▷	Frame Advance (forward).
◁II	Frame Advance (reverse).
R ▷	Repeat Playback.
CHK	Recording Check.
FF	Fast forward.
REW	Rewind.
▷▷	FF Search.
◁◁	REW Search.
BLANK	Blank Search.
SEARCH	Index Search.

Electronic Viewfinder/LCD Monitor Indications

CAMERA/VCR Mode


n
o
p
q
r
s
t
u
v
w
x
y
LP
0h00m00s00f
PAUSE
R0:12
MAGICVU
MNL
700X
EIS
CINEMA
WARNING
MF
D.ZOOM2
AWB
SEPIA
1/60
OP+0dB
VOLUME [-]||||———[+]
12:34:56AM
JAN 2 2002
Z.MIC
WIND-CUT
P

n **Zoom Magnification Level** (p. 40)

o **Digital EIS Indications** (p. 42)
This display appears when EIS is pressed.

p **Backlight Indication** (p. 23)
This display appears when BACK LIGHT is pressed.

q **PROGRAM-AE Indication** (p. 24)

r **Manual Focus Indication** (p. 29)

s **White Balance Indication** (p. 28)

t **Shutter Mode Indication** (p. 30)

u **Iris Indication** (p. 31)

v **Z.MIC Indication** (Menu OSD: p. 101)
This display appears when ZOOM-MIC is set to ON.

w **Light Indication** (p. 9)
This display appears when LIGHT is set to ON.

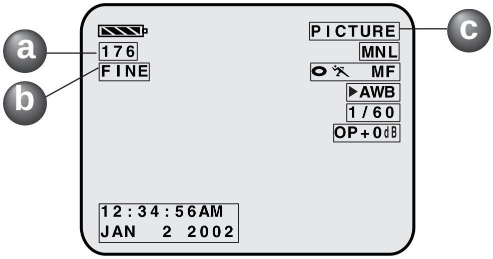
x **WIND-CUT Indication**
(Menu OSD: p. 101)
This display appears when WIND-CUT is set to ON.

y **Progressive Indication**
(Menu OSD: p. 101)
This display appears when PROGRESSIVE is set to ON.

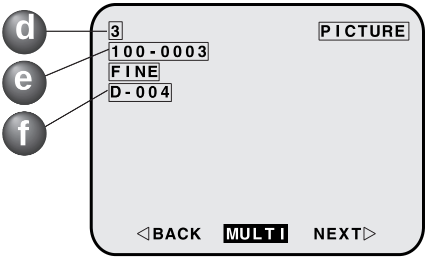
Electronic Viewfinder/LCD Monitor Indications

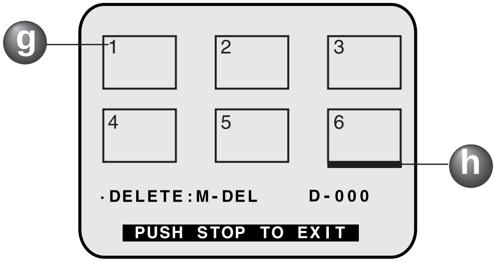
PHOTO Mode

[Photo Rec Mode]


a
b
c
176
FINE
PICTURE
MNL
MF
AWB
1/60
OP+0dB
12:34:56AM
JAN 2 2002

[Photo Play Mode]


d
e
f
3
100-0003
FINE
D-004
PICTURE
◁BACK
MULTI
NEXT▷


g
h
1
2
3
4
5
6
·DELETE:M-DEL
D-000
PUSH STOP TO EXIT

[Photo Play Mode]

a **Image Page Remaining Indication** (p. 48)
- Image pages left in selected mode. "000" flashes when memory is full.
- Memory capacity provided all pictures are taken in the same mode:
  "NORMAL" mode
  → Approx. 70 images (Supplied 8 MB Memory Card)
  "FINE" mode
  → Approx. 30 images (Supplied 8 MB Memory Card)

b **REC MODE**
- NORMAL or FINE mode.
- Image Size:
  "NORMAL" mode
  → 640 x 480 pixels
  "FINE" mode
  → 1280 x 960 pixels

c **Recording Mode**
POWER is set to PICTURE.

d **Directly/Image Number**

e **DCF NO. (Design rule for Camera File system) Indication**
(Menu OSD: p. 104)

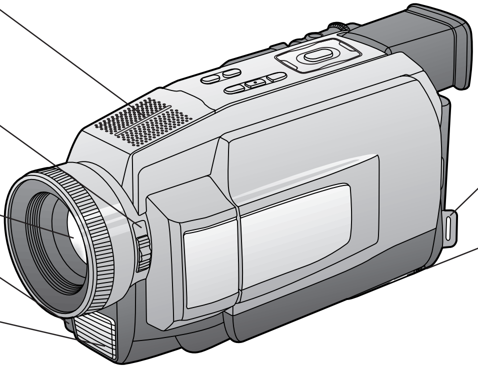
f **DPOF Indication** (p. 54)

g **Multi Image Playback page number**

h **Currently selected image is underlined in green**

Index of Controls

Front View



Built-in Twin Capsule 2-Way Microphone System

MAGICVU/0LUX (PV-DV402 only)
p. 25.

Lens

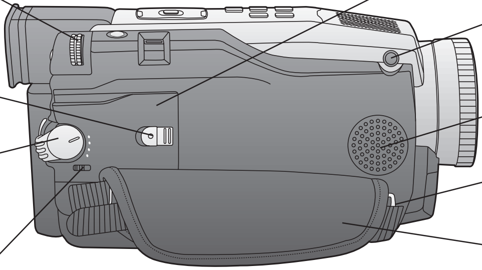
Remote Sensor
p. 9.

Built-in Light
pp. 9, 94.

Shoulder Strap Attachment Ring
p. 8.

BATT RELEASE
pp. 14, 15.

Side View



JOG KEY
pp. 16, 17.
M.FOCUS DIAL
p. 29.

M-CARD EJECT
p. 13.

POWER (VCR•OFF•CAMERA•M-CARD)
pp. 11, 12, 13.

M-CARD Lock
p. 13.

M-CARD Door
p. 13.

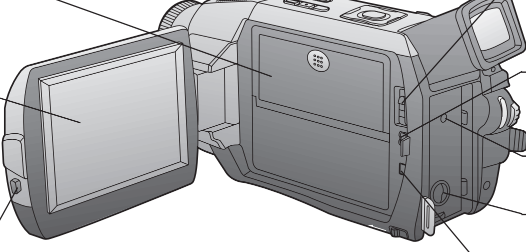
External Microphone Jack (PV-DV402 only)
p. 44.

Built-in Speaker
p. 33.

Shoulder Strap Attachment Ring
p. 8.

Hand Strap
p. 8.

Rear View



Cassette Compartment Cover
p. 7.

LCD (Liquid Crystal Display) Monitor
pp. 11, 12, 19, 32.

LCD-OPEN
pp. 11, 12, 19, 32.

TAPE EJECT
pp. 7, 11.

DV Input/Output (i.LINK) Connector
pp. 47, 73.

DC IN Terminal
p. 15.

S-VIDEO Output Connector
pp. 39, 46.

USB Terminal
pp. 59, 76, 82.

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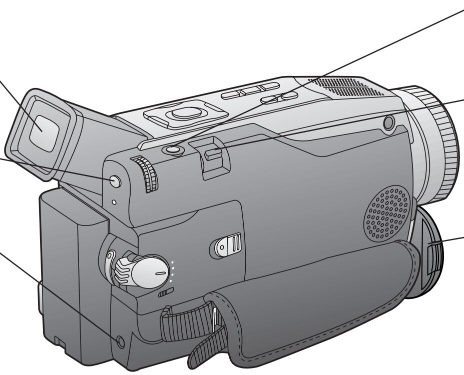
Rear View



Electronic Viewfinder (EVF)
p. 12.

MENU
pp. 16, 17.

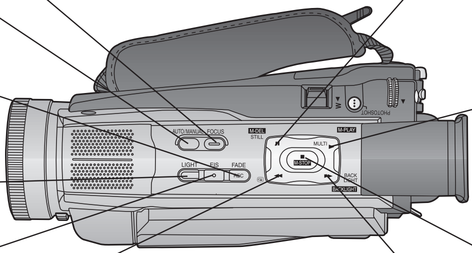
A/V Output Connector
pp. 39, 82.
PHONE
p. 32.

PHOTOSHOT
pp. 20, 48, 49.

POWER ZOOM
pp. 21, 40.
VOLUME
p. 33.

Lens Cap
p. 8.

Top View


W
PHOTOSHOT
AUTO/MANUAL
FOCUS
M-DEL
STILL
M-PLAY
MULTI
LIGHT
EIS
FADE
REC
M-STOP
BACK LIGHT
BACKLIGHT

FOCUS
p. 29.

AUTO/MANUAL
pp. 28~31.

FADE
p. 25.
REC
p. 47.

LIGHT
p. 9.

EIS
p. 42.

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p. 22.

PAUSE
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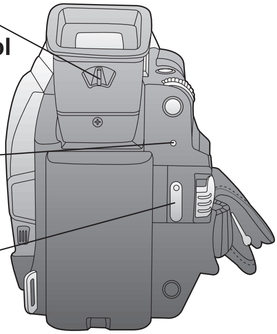
CAMERA STILL
p. 26.
M-DEL
pp. 51, 52, 53.

PLAY
pp. 12, 32.
M-PLAY
pp. 50, 51.
MULTI
p. 38.

STOP
pp. 12, 32.
M-STOP
pp. 50~53.

FF
p. 34.
BACK LIGHT
p. 23.

Back View

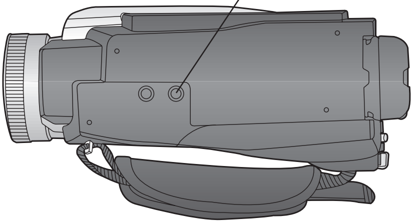


Vision Adjustment Control
pp. 12, 18.

POWER Lamp
p. 18.

REC/PAUSE
pp. 12, 18.

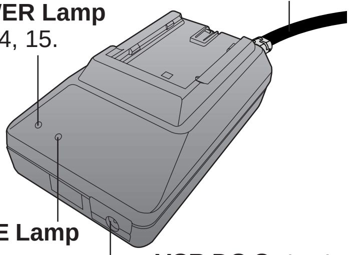
Underside View



Tripod Receptacle

Index of Controls

AC Adaptor



AC Power Cord
pp. 14, 15.

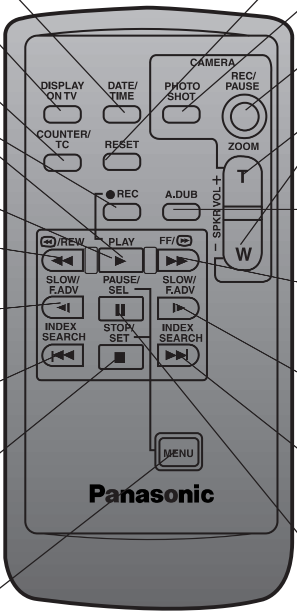
POWER Lamp
pp. 14, 15.

CHARGE Lamp
p. 14.

VCR DC Output Connector
p. 15.

CAUTION:
This unit will operate on 110/120/220/240 V AC. An AC plug adaptor may be required for voltages other than 120V AC. Please contact either a local or foreign electrical parts distributor for assistance in selecting an alternate AC plug.
We recommend using the accessory power plug adaptor (VJSS0070) in an area which has special AC outlets.

Remote Control


CAMERA
DISPLAY ON TV
DATE/ TIME
PHOTO SHOT
REC/ PAUSE
COUNTER/ TC
RESET
ZOOM
T
W
– SPKR VOL +
●REC
A.DUB
/REW
PLAY
FF/
SLOW/ F.ADV
PAUSE/ SEL
SLOW/ F.ADV
INDEX SEARCH
STOP/ SET
INDEX SEARCH
MENU
Panasonic

DATE/TIME
pp. 9, 105.

DISPLAY ON TV
pp. 9, 39.

COUNTER/TC
pp. 9, 106.

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pp. 9, 47.

PLAY
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REVERSE INDEX SEARCH
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MENU
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RESET
pp. 9, 45.

PHOTOSHOT
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REC/PAUSE
pp. 9, 18.

POWER ZOOM
pp. 9, 21.
SPKR VOL +/–
pp. 9, 33.

A.DUB
pp. 9, 44.

FAST FORWARD/ SEARCH
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FORWARD SLOW/ F. ADV
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SEL
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Matsushita Electric Industrial Co., Ltd.
Web Site:http://www.panasonic.co.jp/global/

Printed in Japan
LSQT0597A
S0202A0

1. **Important safety notice**
   Components identified by the sign ⚠ have special characteristics important for safety. When replacing any of these components. Use only the specified parts.

2. Do not use the part number shown on this drawing for ordering.
   The correct part number and part value is shown in the parts list, and may be slightly different or amended since this drawing was prepared.

3. Use only original replacement parts:
   To maintain original function and reliability of repaired units, use only original replacement parts which are listed with their part numbers in the parts list section of the service manual.

4. Parts different in shape or size may be used.
   However, only interchangeable parts will be supplied as service replacement parts.

5. Test point information
   ○ : Test point with no test pin.

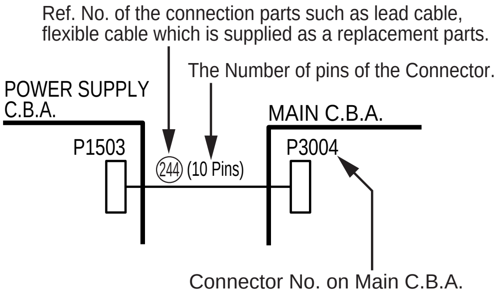
Schematic Diagram Notes

1. Indication for Zener Voltage of Zener Diodes
   The Zener Voltage of Zener Diodes are indicated as such on Schematic Diagrams.

   Example:
   (6.2V)......Zener Voltage

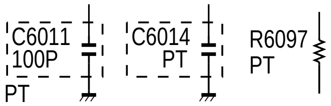
2. How to identify Connectors
   Each connector is labeled with a Connector No. and Pin No. Indicating what it is connected to,
   in other words, its counter part.
   Use the interconnection schematic diagram to find the connection between associated connectors.

   Example:
   The connections between C.B.A.s are shown below.


Ref. No. of the connection parts such as lead cable,
flexible cable which is supplied as a replacement parts.
The Number of pins of the Connector.
POWER SUPPLY
C.B.A.
MAIN C.B.A.
P1503
(244)
(10 Pins)
P3004
Connector No. on Main C.B.A.

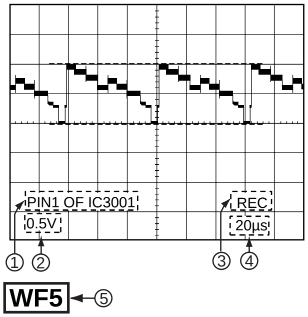
3. Parts marked "PT" are not used in any models included in this service model.

   Example:


C6011
100P
PT
C6014
PT
R6097
PT

Signal Waveform Note

How to read Signal Waveform



① Connecting Point
② Volts/Div
③ Operation Mode of VCR
④ Time/Div
⑤ Waveform Point on Schematic

Voltage Chart Note

Voltage Measurement
a. Color bar signal in SP mode.
b. ---:Unmeasurable or not necessary to measure.

Circuit Board Layout Note

Circuit Board Layout shows components installed for various models.
For proper parts content for the model you are servicing, please refer to the schematic diagram and parts list.

NOTE:
Circuit Board Layout includes components which are not used.

Model No. Identification Mark

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

Note : Refer to item 3 of Schematic Diagram Notes for mark "PT".

MAIN I SCHEMATIC DIAGRAM

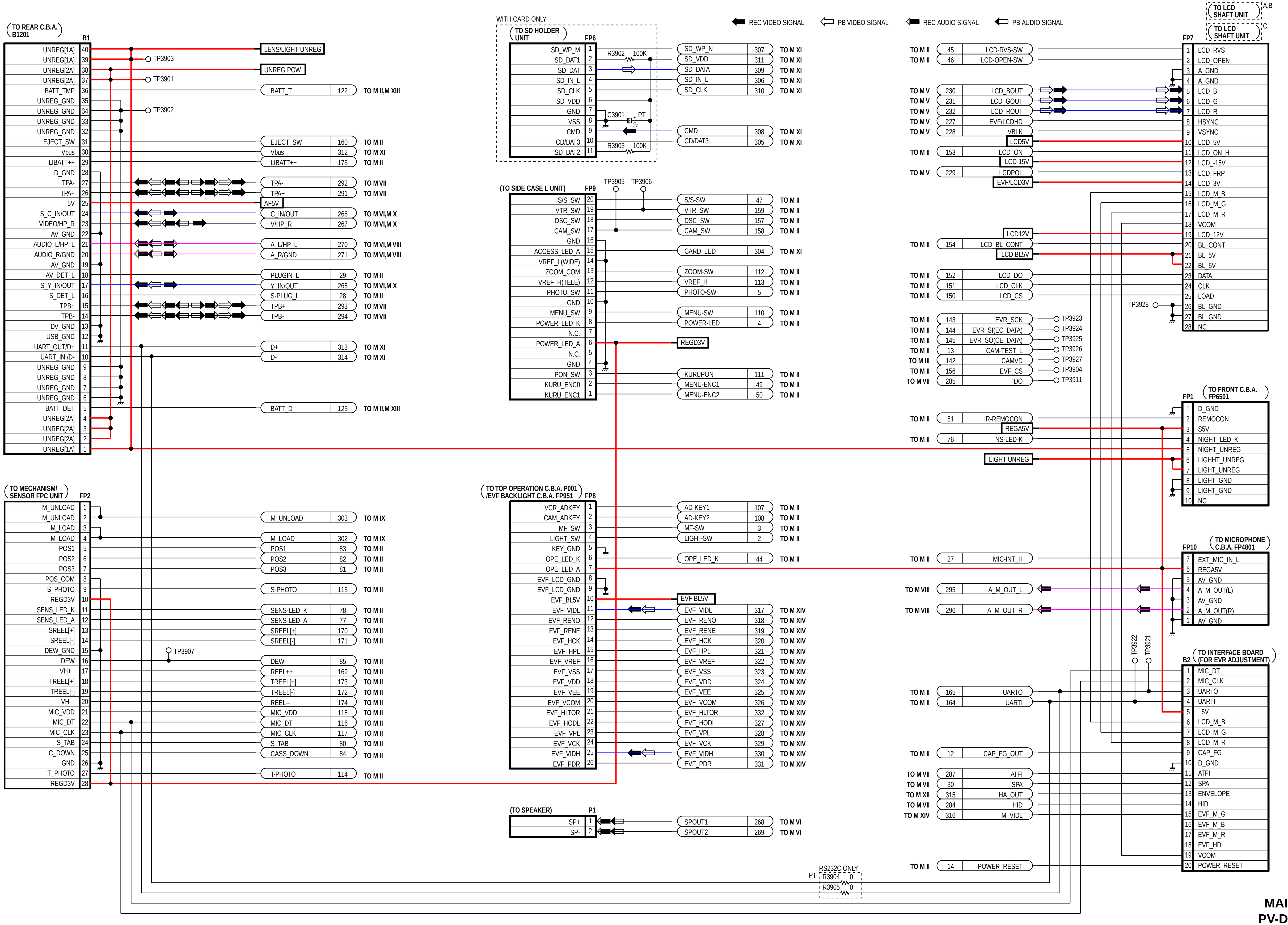
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO REAR C.B.A. B1201
B1
40 UNREG[1A]
39 UNREG[1A]
38 UNREG[2A]
37 UNREG[2A]
36 BATT_TMP
35 UNREG_GND
34 UNREG_GND
33 UNREG_GND
32 UNREG_GND
31 EJECT_SW
30 Vbus
29 LIBATT++
28 D_GND
27 TPA-
26 TPA+
25 5V
24 S_C_IN/OUT
23 VIDEO/HP_R
22 AV_GND
21 AUDIO_L/HP_L
20 AUDIO_R/GND
19 AV_GND
18 AV_DET_L
17 S_Y_IN/OUT
16 S_DET_L
15 TPB+
14 TPB-
13 DV_GND
12 USB_GND
11 UART_OUT/D+
10 UART_IN /D-
9 UNREG_GND
8 UNREG_GND
7 UNREG_GND
6 UNREG_GND
5 BATT_DET
4 UNREG[2A]
3 UNREG[2A]
2 UNREG[2A]
1 UNREG[1A]
LENS/LIGHT UNREG
TP3903
UNREG POW
TP3901
BATT_T 122 TO M II,M XIII
TP3902
EJECT_SW 160 TO M II
Vbus 312 TO M XI
LIBATT++ 175 TO M II
TPA- 292 TO M VII
TPA+ 291 TO M VII
AF5V
C_IN/OUT 266 TO M VI,M X
V/HP_R 267 TO M VI,M X
A_L/HP_L 270 TO M VI,M VIII
A_R/GND 271 TO M VI,M VIII
PLUGIN_L 29 TO M II
Y_IN/OUT 265 TO M VI,M X
S-PLUG_L 28 TO M II
TPB+ 293 TO M VII
TPB- 294 TO M VII
D+ 313 TO M XI
D- 314 TO M XI
BATT_D 123 TO M II,M XIII
TO MECHANISM/ SENSOR FPC UNIT
FP2
1 M_UNLOAD
2 M_UNLOAD
3 M_LOAD
4 M_LOAD
5 POS1
6 POS2
7 POS3
8 POS_COM
9 S_PHOTO
10 REGD3V
11 SENS_LED_K
12 SENS_LED_A
13 SREEL[+]
14 SREEL[-]
15 DEW_GND
16 DEW
17 VH+
18 TREEL[+]
19 TREEL[-]
20 VH-
21 MIC_VDD
22 MIC_DT
23 MIC_CLK
24 S_TAB
25 C_DOWN
26 GND
27 T_PHOTO
28 REGD3V
M_UNLOAD 303 TO M IX
M_LOAD 302 TO M IX
POS1 83 TO M II
POS2 82 TO M II
POS3 81 TO M II
S-PHOTO 115 TO M II
SENS-LED_K 78 TO M II
SENS-LED_A 77 TO M II
SREEL[+] 170 TO M II
SREEL[-] 171 TO M II
TP3907
DEW 85 TO M II
REEL++ 169 TO M II
TREEL[+] 173 TO M II
TREEL[-] 172 TO M II
REEL-- 174 TO M II
MIC_VDD 118 TO M II
MIC_DT 116 TO M II
MIC_CLK 117 TO M II
S_TAB 80 TO M II
CASS_DOWN 84 TO M II
T-PHOTO 114 TO M II
WITH CARD ONLY
TO SD HOLDER UNIT
FP6
1 SD_WP_M
2 SD_DAT1
3 SD_DAT
4 SD_IN_L
5 SD_CLK
6 SD_VDD
7 GND
8 VSS
9 CMD
10 CD/DAT3
11 SD_DAT2
R3902 100K
C3901 PT
R3903 100K
SD_WP_N 307 TO M XI
SD_VDD 311 TO M XI
SD_DATA 309 TO M XI
SD_IN_L 306 TO M XI
SD_CLK 310 TO M XI
CMD 308 TO M XI
CD/DAT3 305 TO M XI
(TO SIDE CASE L UNIT)
FP9
TP3905
TP3906
20 S/S_SW
19 VTR_SW
18 DSC_SW
17 CAM_SW
16 GND
15 ACCESS_LED_A
14 VREF_L(WIDE)
13 ZOOM_COM
12 VREF_H(TELE)
11 PHOTO_SW
10 GND
9 MENU_SW
8 POWER_LED_K
7 N.C.
6 POWER_LED_A
5 N.C.
4 GND
3 PON_SW
2 KURU_ENC0
1 KURU_ENC1
S/S-SW 47 TO M II
VTR_SW 159 TO M II
DSC_SW 157 TO M II
CAM_SW 158 TO M II
CARD_LED 304 TO M XI
ZOOM-SW 112 TO M II
VREF_H 113 TO M II
PHOTO-SW 5 TO M II
MENU-SW 110 TO M II
POWER-LED 4 TO M II
REGD3V
KURUPON 111 TO M II
MENU-ENC1 49 TO M II
MENU-ENC2 50 TO M II
TO TOP OPERATION C.B.A. P001 /EVF BACKLIGHT C.B.A. FP951
FP8
1 VCR_ADKEY
2 CAM_ADKEY
3 MF_SW
4 LIGHT_SW
5 KEY_GND
6 OPE_LED_K
7 OPE_LED_A
8 EVF_LCD_GND
9 EVF_LCD_GND
10 EVF_BL5V
11 EVF_VIDL
12 EVF_RENO
13 EVF_RENE
14 EVF_HCK
15 EVF_HPL
16 EVF_VREF
17 EVF_VSS
18 EVF_VDD
19 EVF_VEE
20 EVF_VCOM
21 EVF_HLTOR
22 EVF_HODL
23 EVF_VPL
24 EVF_VCK
25 EVF_VIDH
26 EVF_PDR
AD-KEY1 107 TO M II
AD-KEY2 108 TO M II
MF-SW 3 TO M II
LIGHT-SW 2 TO M II
OPE_LED_K 44 TO M II
EVF BL5V
EVF_VIDL 317 TO M XIV
EVF_RENO 318 TO M XIV
EVF_RENE 319 TO M XIV
EVF_HCK 320 TO M XIV
EVF_HPL 321 TO M XIV
EVF_VREF 322 TO M XIV
EVF_VSS 323 TO M XIV
EVF_VDD 324 TO M XIV
EVF_VEE 325 TO M XIV
EVF_VCOM 326 TO M XIV
EVF_HLTOR 332 TO M XIV
EVF_HODL 327 TO M XIV
EVF_VPL 328 TO M XIV
EVF_VCK 329 TO M XIV
EVF_VIDH 330 TO M XIV
EVF_PDR 331 TO M XIV
(TO SPEAKER)
P1
1 SP+
2 SP-
SPOUT1 268 TO M VI
SPOUT2 269 TO M VI
RS232C ONLY
PT
R3904 0
R3905 0
TO LCD SHAFT UNIT A,B
TO LCD SHAFT UNIT C
FP7
1 LCD_RVS
2 LCD_OPEN
3 A_GND
4 A_GND
5 LCD_B
6 LCD_G
7 LCD_R
8 HSYNC
9 VSYNC
10 LCD_5V
11 LCD_ON_H
12 LCD_-15V
13 LCD_FRP
14 LCD_3V
15 LCD_M_B
16 LCD_M_G
17 LCD_M_R
18 VCOM
19 LCD_12V
20 BL_CONT
21 BL_5V
22 BL_5V
23 DATA
24 CLK
25 LOAD
26 BL_GND
27 BL_GND
28 NC
TO M II 45 LCD-RVS-SW
TO M II 46 LCD-OPEN-SW
TO M V 230 LCD_BOUT
TO M V 231 LCD_GOUT
TO M V 232 LCD_ROUT
TO M V 227 EVF/LCDHD
TO M V 228 VBLK
LCD5V
TO M II 153 LCD_ON
LCD-15V
TO M V 229 LCDPOL
EVF/LCD3V
LCD12V
TO M II 154 LCD_BL_CONT
LCD BL5V
TO M II 152 LCD_DO
TO M II 151 LCD_CLK
TO M II 150 LCD_CS
TP3928
TO M II 143 EVR_SCK TP3923
TO M II 144 EVR_SI(EC_DATA) TP3924
TO M II 145 EVR_SO(CE_DATA) TP3925
TO M II 13 CAM-TEST_L TP3926
TO M III 142 CAMVD TP3927
TO M II 156 EVF_CS TP3904
TO M VII 285 TDO TP3911
TO FRONT C.B.A. FP6501
FP1
1 D_GND
2 REMOCON
3 S5V
4 NIGHT_LED_K
5 NIGHT_UNREG
6 LIGHHT_UNREG
7 LIGHT_UNREG
8 LIGHT_GND
9 LIGHT_GND
10 NC
TO M II 51 IR-REMOCON
REGA5V
TO M II 76 NS-LED-K
LIGHT UNREG
TO MICROPHONE C.B.A. FP4801
FP10
7 EXT_MIC_IN_L
6 REGA5V
5 AV_GND
4 A_M_OUT(L)
3 AV_GND
2 A_M_OUT(R)
1 AV_GND
TO M II 27 MIC-INT_H
TO M VIII 295 A_M_OUT_L
TO M VIII 296 A_M_OUT_R
TP3922
TP3921
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
B2
1 MIC_DT
2 MIC_CLK
3 UARTO
4 UARTI
5 5V
6 LCD_M_B
7 LCD_M_G
8 LCD_M_R
9 CAP_FG
10 D_GND
11 ATFI
12 SPA
13 ENVELOPE
14 HID
15 EVF_M_G
16 EVF_M_B
17 EVF_M_R
18 EVF_HD
19 VCOM
20 POWER_RESET
TO M II 165 UARTO
TO M II 164 UARTI
TO M II 12 CAP_FG_OUT
TO M VII 287 ATFI
TO M VII 30 SPA
TO M XII 315 HA_OUT
TO M VII 284 HID
TO M XIV 316 M_VIDL
TO M II 14 POWER_RESET

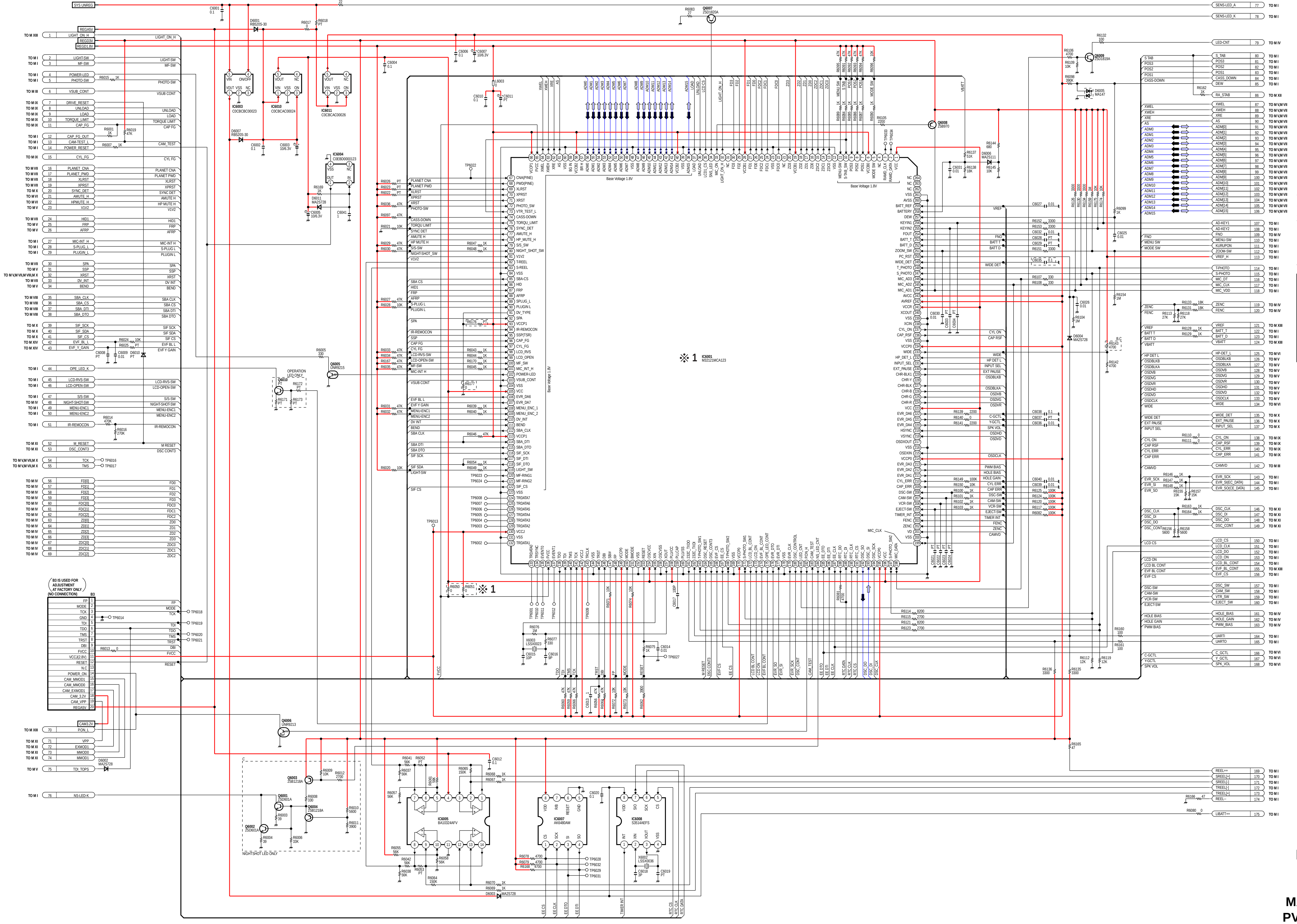
LSJB8165
MAIN I SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN II SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.



REC VIDEO SIGNAL
PB VIDEO SIGNAL
IC6001 M32121MCA123
IC6003 C0CBCBC00023
IC6010 C0CBCAC00024
IC6011 C0CBCAC00026
IC6004 C0EBD0000123
IC6005 BA10324AFV
IC6007 AK6480AM
IC6008 S3514AEFS
Q6007 2SD1820A
Q6008 2SB970
Q6009 2SD1819A
Q6005 UNR9215
Q6006 UNR9213
Q6001 2SD601A
Q6002 2SD601A
Q6003 2SB1218A
Q6004 2SB1218A
X6002 LSSX0036
X6003 LSSX0023
Base Voltage 1.8V
※ 1
B3 IS USED FOR ADJUSTMENT AT FACTORY ONLY (NO CONNECTION)
OPERATION LED ONLY
NIGHTSHOT LED ONLY

COMPARISON CHART OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

※ 1

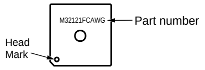
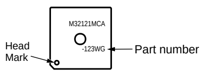
IC6001 REPLACEMENT NOTE

Two types of IC6001 (M32121FCAWG or M32121MCA123) are used on a running change basis, however IC6001 (M32121MCA123) is supplied only as a replacement part.

When replacing IC6001, as in the following cases, it is necessary to replace the resistor at the same time or IC6001 may have a short life.

- When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA123), be sure to move resistor (Ref. No. R6051) to the R6050 location.

Types of IC6001

M32121FCAWG	 M32121FCAWG Part number Head Mark
M32121MCA123	 M32121MCA -123WG Part number Head Mark

LINK TO VOLTAGE CHART

LSJB8165

MAIN II SCHEMATIC DIAGRAM

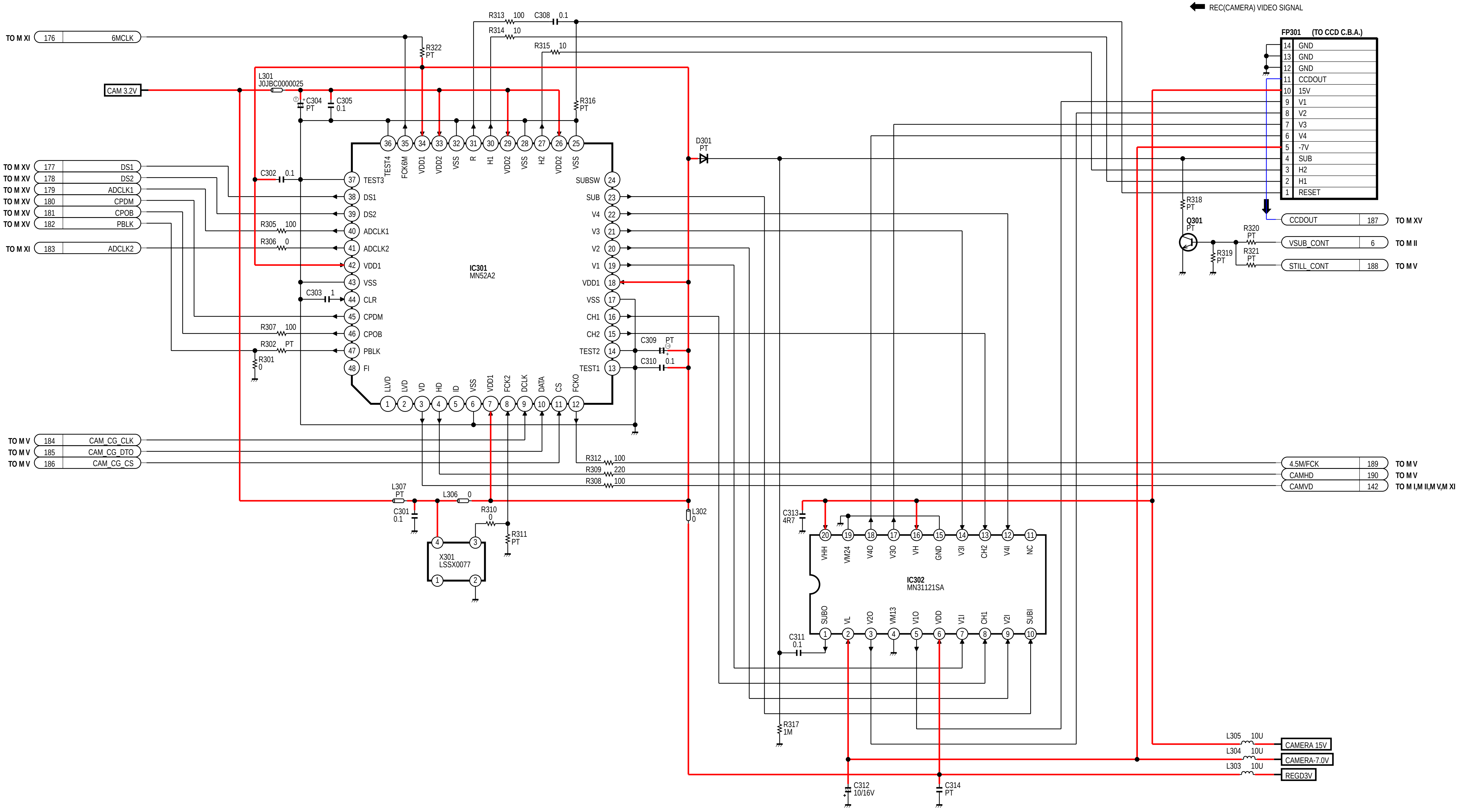
PV-DV102/PV-DV202/PV-DV402

MAIN III SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


REC(CAMERA) VIDEO SIGNAL
TO M XI 176 6MCLK
CAM 3.2V
L301 J0JBC0000025
C304 PT
C305 0.1
R313 100
C308 0.1
R314 10
R315 10
R322 PT
R316 PT
TO M XV 177 DS1
TO M XV 178 DS2
TO M XV 179 ADCLK1
TO M XV 180 CPDM
TO M XV 181 CPOB
TO M XV 182 PBLK
TO M XI 183 ADCLK2
C302 0.1
R305 100
R306 0
C303 1
R307 100
R302 PT
R301 0
IC301
MN52A2
36 TEST4
35 FCK6M
34 VDD1
33 VDD2
32 VSS
31 R
30 H1
29 VDD2
28 VSS
27 H2
26 VDD2
25 VSS
37 TEST3
38 DS1
39 DS2
40 ADCLK1
41 ADCLK2
42 VDD1
43 VSS
44 CLR
45 CPDM
46 CPOB
47 PBLK
48 FI
1 LLVD
2 LVD
3 VD
4 HD
5 ID
6 VSS
7 VDD1
8 FCK2
9 DCLK
10 DATA
11 CS
12 FCKO
24 SUBSW
23 SUB
22 V4
21 V3
20 V2
19 V1
18 VDD1
17 VSS
16 CH1
15 CH2
14 TEST2
13 TEST1
C309 PT
C310 0.1
D301 PT
FP301 (TO CCD C.B.A.)
14 GND
13 GND
12 GND
11 CCDOUT
10 15V
9 V1
8 V2
7 V3
6 V4
5 -7V
4 SUB
3 H2
2 H1
1 RESET
R318 PT
Q301 PT
R320 PT
R319 PT
R321 PT
CCDOUT 187 TO M XV
VSUB_CONT 6 TO M II
STILL_CONT 188 TO M V
TO M V 184 CAM_CG_CLK
TO M V 185 CAM_CG_DTO
TO M V 186 CAM_CG_CS
R312 100
R309 220
R308 100
4.5M/FCK 189 TO M V
CAMHD 190 TO M V
CAMVD 142 TO M I,M II,M V,M XI
L307 PT
C301 0.1
L306 0
R310 0
R311 PT
X301 LSSX0077
L302 0
C313 4R7
IC302
MN31121SA
20 VHH
19 VM24
18 V4O
17 V3O
16 VH
15 GND
14 V3I
13 CH2
12 V4I
11 NC
1 SUBO
2 VL
3 V2O
4 VM13
5 V1O
6 VDD
7 V1I
8 CH1
9 V2I
10 SUBI
C311 0.1
R317 1M
C312 10/16V
C314 PT
L305 10U CAMERA 15V
L304 10U CAMERA-7.0V
L303 10U REGD3V

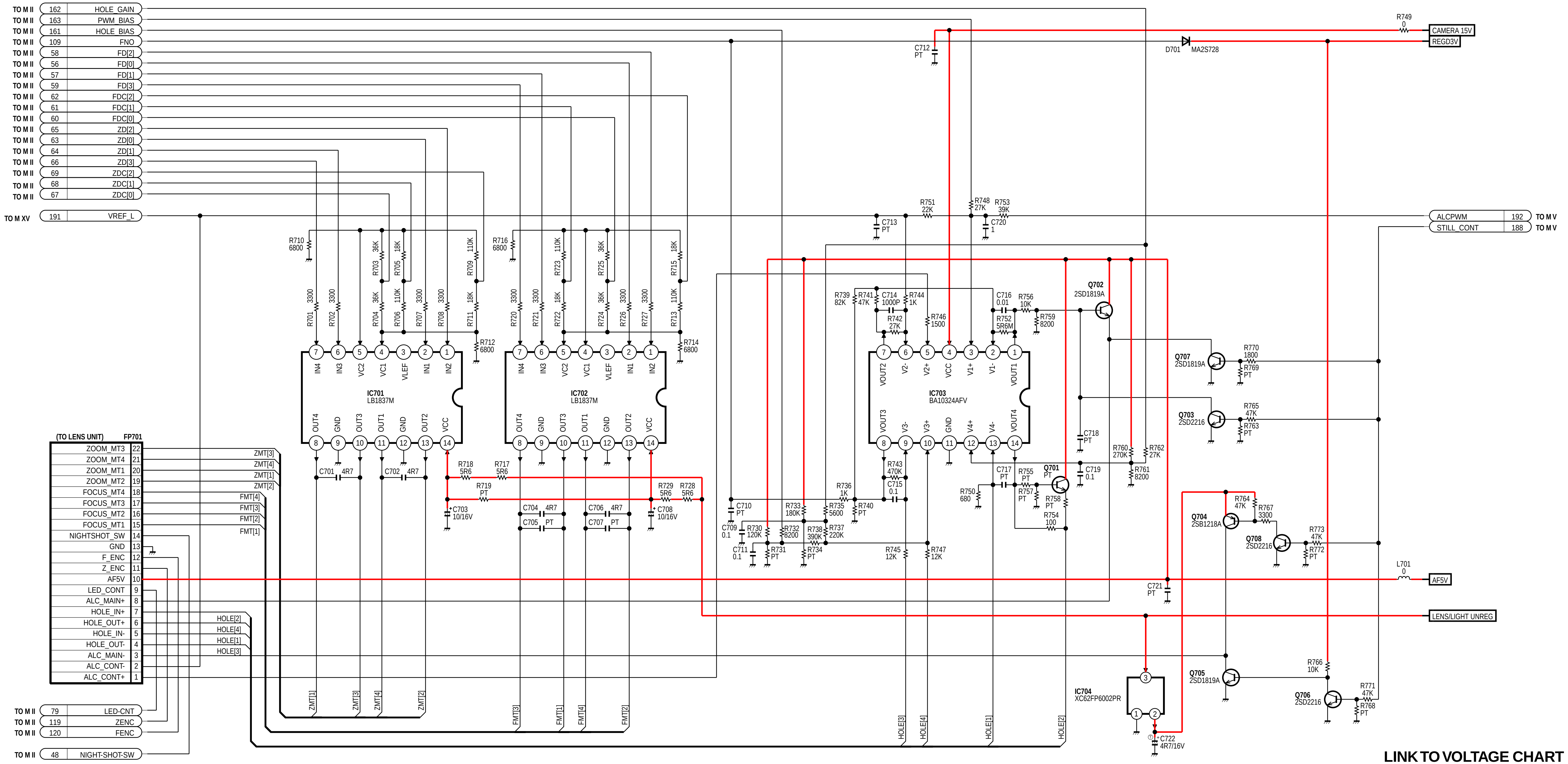
LINK TO VOLTAGE CHART

MAIN IV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


TO M II 162 HOLE_GAIN
TO M II 163 PWM_BIAS
TO M II 161 HOLE_BIAS
TO M II 109 FNO
TO M II 58 FD[2]
TO M II 56 FD[0]
TO M II 57 FD[1]
TO M II 59 FD[3]
TO M II 62 FDC[2]
TO M II 61 FDC[1]
TO M II 60 FDC[0]
TO M II 65 ZD[2]
TO M II 63 ZD[0]
TO M II 64 ZD[1]
TO M II 66 ZD[3]
TO M II 69 ZDC[2]
TO M II 68 ZDC[1]
TO M II 67 ZDC[0]
TO M XV 191 VREF_L
(TO LENS UNIT) FP701
ZOOM_MT3 22
ZOOM_MT4 21
ZOOM_MT1 20
ZOOM_MT2 19
FOCUS_MT4 18
FOCUS_MT3 17
FOCUS_MT2 16
FOCUS_MT1 15
NIGHTSHOT_SW 14
GND 13
F_ENC 12
Z_ENC 11
AF5V 10
LED_CONT 9
ALC_MAIN+ 8
HOLE_IN+ 7
HOLE_OUT+ 6
HOLE_IN- 5
HOLE_OUT- 4
ALC_MAIN- 3
ALC_CONT- 2
ALC_CONT+ 1
TO M II 79 LED-CNT
TO M II 119 ZENC
TO M II 120 FENC
TO M II 48 NIGHT-SHOT-SW
ZMT[3]
ZMT[4]
ZMT[1]
ZMT[2]
FMT[4]
FMT[3]
FMT[2]
FMT[1]
HOLE[2]
HOLE[4]
HOLE[1]
HOLE[3]
IC701 LB1837M
IC702 LB1837M
IC703 BA10324AFV
IC704 XC62FP6002PR
IN4
IN3
VC2
VC1
VLEF
IN1
IN2
OUT4
GND
OUT3
OUT1
OUT2
VCC
VOUT2
V2-
V2+
V1+
V1-
VOUT1
VOUT3
V3-
V3+
V4+
V4-
VOUT4
R701 3300
R702 3300
R703 36K
R704 36K
R705 18K
R706 110K
R707 3300
R708 3300
R709 110K
R710 6800
R711 18K
R712 6800
R713 110K
R714 6800
R715 18K
R716 6800
R717 5R6
R718 5R6
R719 PT
R720 3300
R721 3300
R722 18K
R723 110K
R724 36K
R725 36K
R726 3300
R727 3300
R728 5R6
R729 5R6
C701 4R7
C702 4R7
C703 10/16V
C704 4R7
C705 PT
C706 4R7
C707 PT
C708 10/16V
C709 0.1
C710 PT
C711 0.1
C712 PT
C713 PT
C714 1000P
C715 0.1
C716 0.01
C717 PT
C718 PT
C719 0.1
C720 1
C721 PT
C722 4R7/16V
R730 120K
R731 PT
R732 8200
R733 180K
R734 PT
R735 5600
R736 1K
R737 220K
R738 390K
R739 82K
R740 PT
R741 47K
R742 27K
R743 470K
R744 1K
R745 12K
R746 1500
R747 12K
R748 27K
R749 0
R750 680
R751 22K
R752 5R6M
R753 39K
R754 100
R755 PT
R756 10K
R757 PT
R758 PT
R759 8200
R760 270K
R761 8200
R762 27K
R763 PT
R764 47K
R765 47K
R766 10K
R767 3300
R768 PT
R769 PT
R770 1800
R771 47K
R772 PT
R773 47K
D701 MA2S728
Q701 PT
Q702 2SD1819A
Q703 2SD2216
Q704 2SB1218A
Q705 2SD1819A
Q706 2SD2216
Q707 2SD1819A
Q708 2SD2216
L701 0
CAMERA 15V
REGD3V
ALCPWM 192 TO M V
STILL_CONT 188 TO M V
AF5V
LENS/LIGHT UNREG

LINK TO VOLTAGE CHART

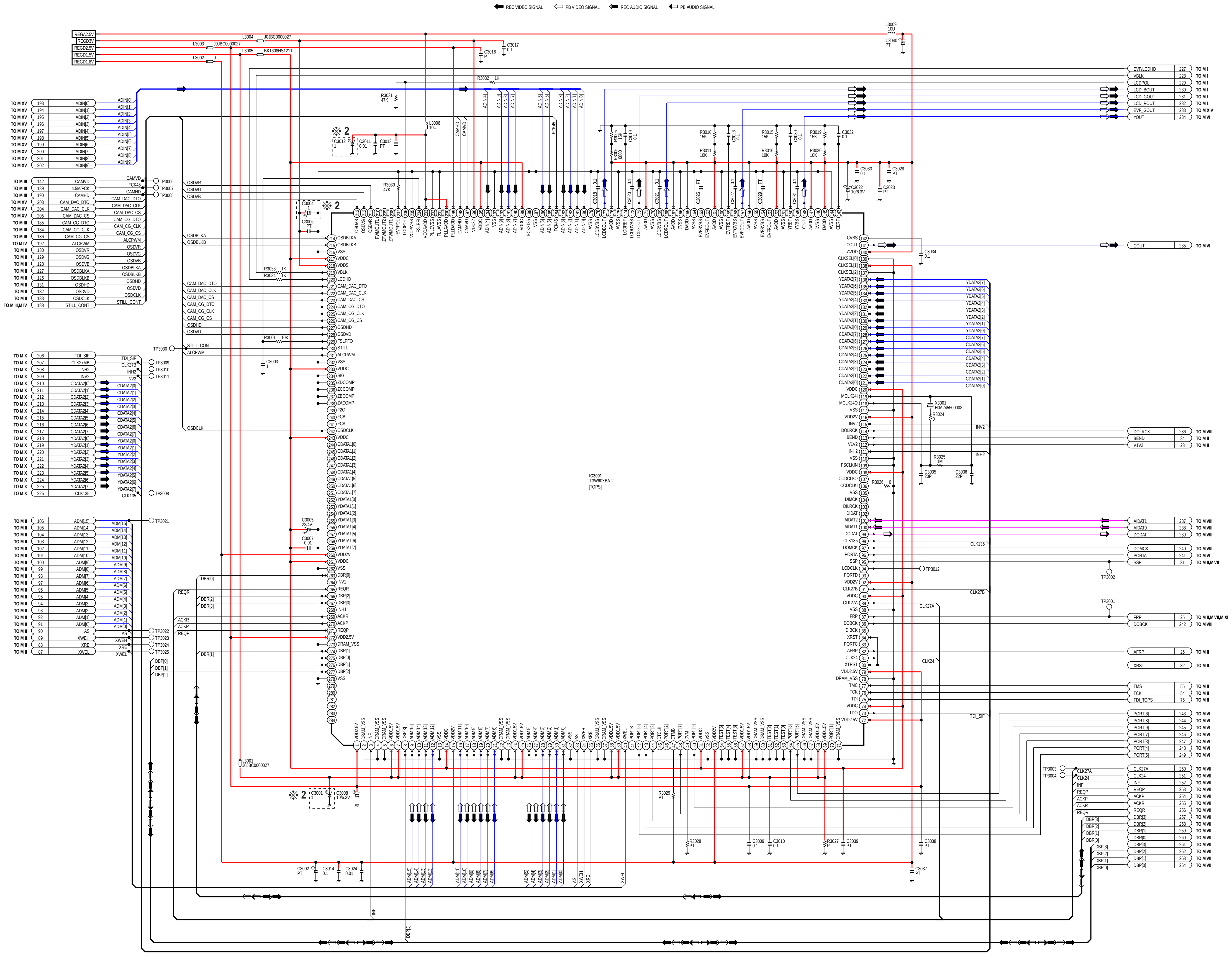
LSJB8165
MAIN IV SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN V SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts, be sure to use the part number listed in the parts list. Do not use the part number on this diagram.

NOTE: PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE: FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
REGA2.5V
REGD3V
REGD2.5V
REGD1.5V
REGD1.8V
IC3001
T3W60XBA-2
[TOPS]
※ 2

※ 2

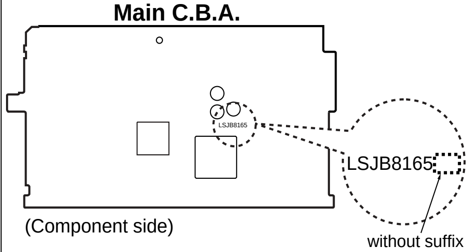
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.

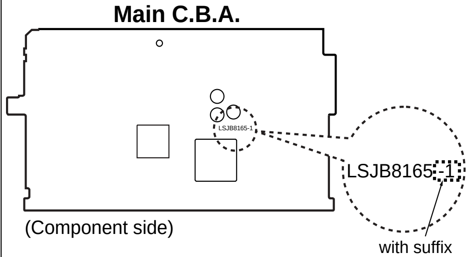
In early products: LSJB8165 (without suffix)

In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.

Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	-----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LSJB8165
MAIN V SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN VI SCHEMATIC DIAGRAM

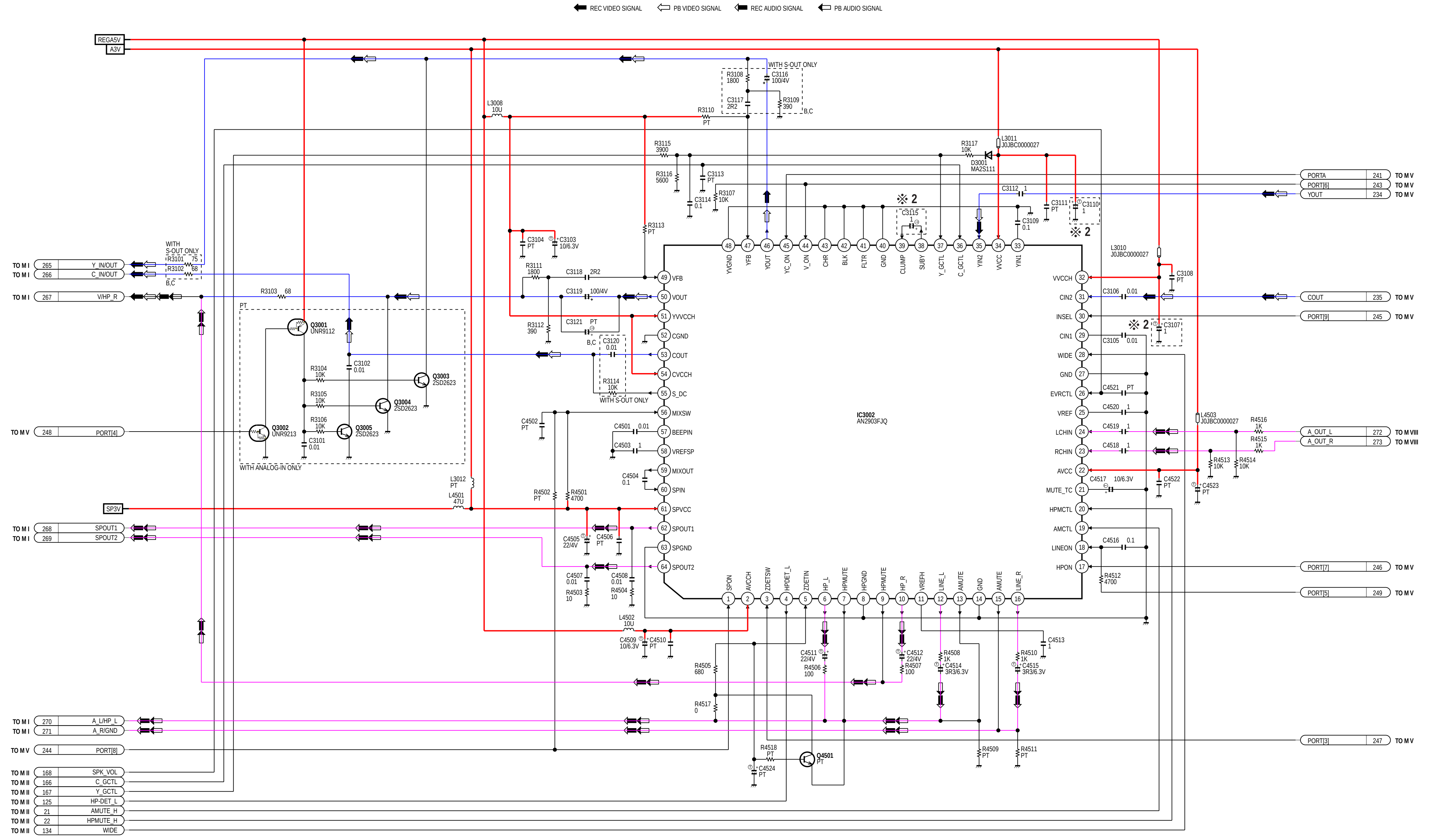
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
REGA5V
A3V
SP3V
TO M I 265 Y_IN/OUT
TO M I 266 C_IN/OUT
TO M I 267 V/HP_R
TO M V 248 PORT[4]
TO M I 268 SPOUT1
TO M I 269 SPOUT2
TO M I 270 A_L/HP_L
TO M I 271 A_R/GND
TO M V 244 PORT[8]
TO M II 168 SPK_VOL
TO M II 166 C_GCTL
TO M II 167 Y_GCTL
TO M II 125 HP-DET_L
TO M II 21 AMUTE_H
TO M II 22 HPMUTE_H
TO M II 134 WIDE
PORTA 241 TO M V
PORT[6] 243 TO M V
YOUT 234 TO M V
COUT 235 TO M V
PORT[9] 245 TO M V
A_OUT_L 272 TO M VIII
A_OUT_R 273 TO M VIII
PORT[7] 246 TO M V
PORT[5] 249 TO M V
PORT[3] 247 TO M V
WITH S-OUT ONLY
R3101 75
R3102 68
B,C
PT
WITH ANALOG-IN ONLY
Q3001 UNR9112
Q3002 UNR9213
Q3003 2SD2623
Q3004 2SD2623
Q3005 2SD2623
IC3002 AN2903FJQ
D3001 MA2S111
L3011 J0JBC0000027
L3010 J0JBC0000027
L4503 J0JBC0000027
※ 2
1 SPON
2 AVCCH
3 ZDETSW
4 HPDET_L
5 ZDETIN
6 HP_L
7 HPMUTE
8 HPGND
9 HPMUTE
10 HP_R
11 VREFH
12 LINE_L
13 AMUTE
14 GND
15 AMUTE
16 LINE_R
17 HPON
18 LINEON
19 AMCTL
20 HPMCTL
21 MUTE_TC
22 AVCC
23 RCHIN
24 LCHIN
25 VREF
26 EVRCTL
27 GND
28 WIDE
29 CIN1
30 INSEL
31 CIN2
32 VVCCH
33 YIN1
34 VVCC
35 YIN2
36 C_GCTL
37 Y_GCTL
38 SUBY
39 CLUMP
40 GND
41 FLTR
42 BLK
43 CHR
44 V_ON
45 YC_ON
46 YOUT
47 YFB
48 YVGND
49 VFB
50 VOUT
51 YVVCCH
52 CGND
53 COUT
54 CVCCH
55 S_DC
56 MIXSW
57 BEEPIN
58 VREFSP
59 MIXOUT
60 SPIN
61 SPVCC
62 SPOUT1
63 SPGND
64 SPOUT2
Q4501 PT

※ 2

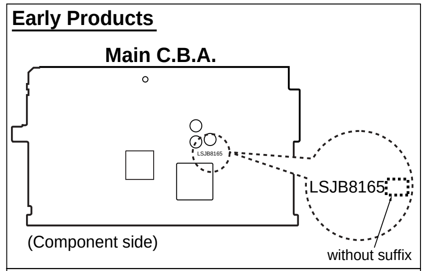
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.

In early products: LSJB8165 (without suffix)

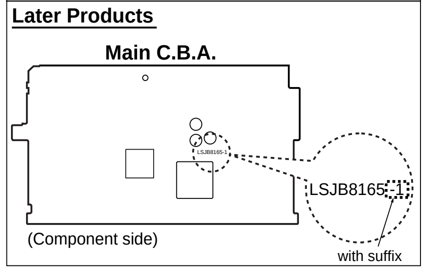
In later products: LSJB8165-1 etc. (with suffix)

Early Products



Main C.B.A.
LSJB8165
(Component side)
without suffix

Later Products



Main C.B.A.
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.

Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

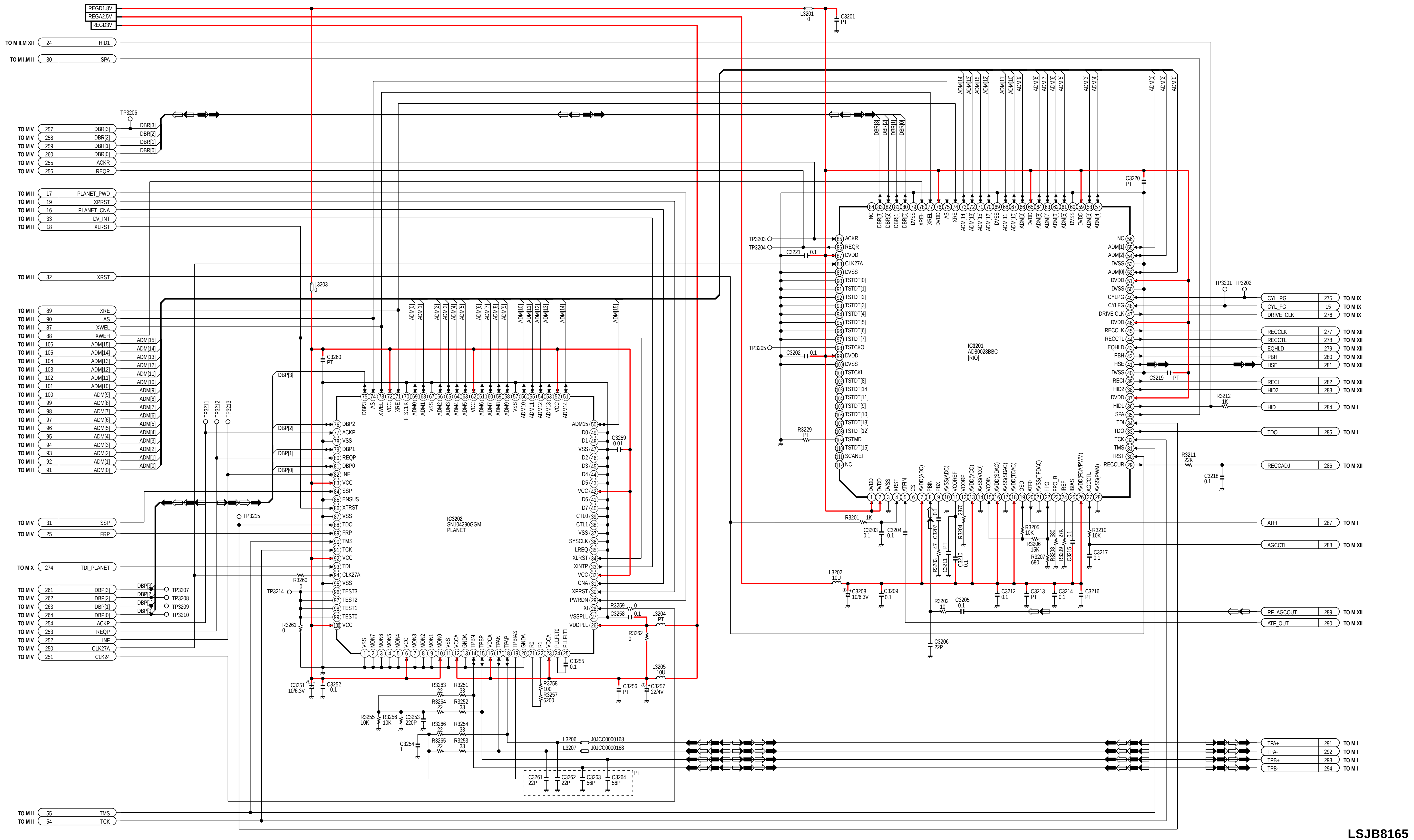
MAIN VII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL

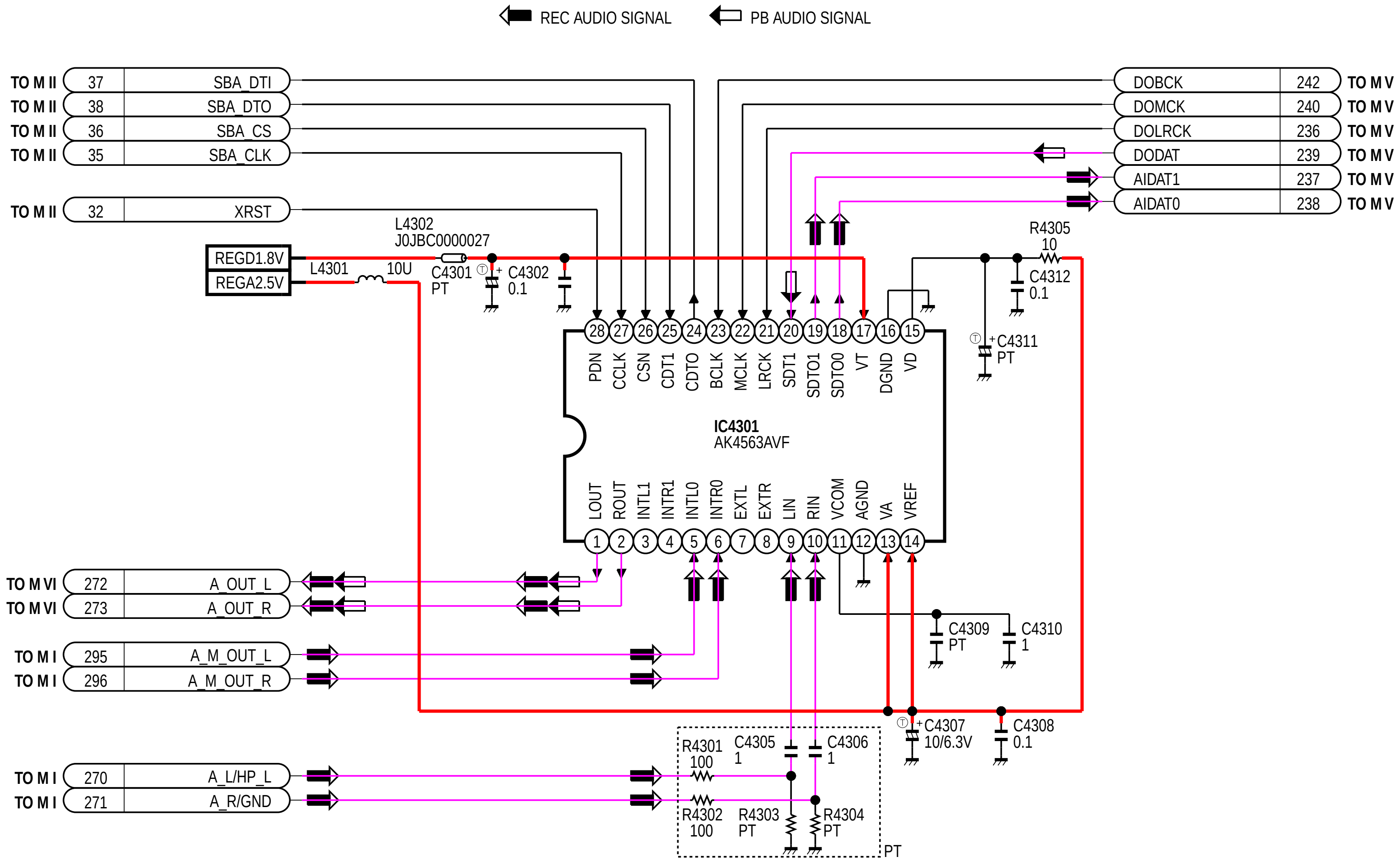

REGD1.8V
REGA2.5V
REGD3V
TO M II,M XII
TO M I,M II
TO M V
TO M II
TO M X
TO M IX
TO M XII
TO M I
IC3202
SN104290GGM
PLANET
IC3201
AD80028BBC
[RIO]
L3201
L3202
L3203
L3204
L3205
L3206 J0JCC0000168
L3207 J0JCC0000168
TP3201
TP3202
TP3203
TP3204
TP3205
TP3206
TP3214
TP3215
HID1
SPA
DBR[3]
DBR[2]
DBR[1]
DBR[0]
ACKR
REQR
PLANET_PWD
XPRST
PLANET_CNA
DV_INT
XLRST
XRST
XRE
AS
XWEL
XWEH
SSP
FRP
TDI_PLANET
DBP[3]
DBP[2]
DBP[1]
DBP[0]
ACKP
REQP
INF
CLK27A
CLK24
TMS
TCK
CYL_PG
CYL_FG
DRIVE_CLK
RECCLK
RECCTL
EQHLD
PBH
HSE
RECI
HID2
HID
TDO
RECCADJ
ATFI
AGCCTL
RF_AGCOUT
ATF_OUT
TPA+
TPA-
TPB+
TPB-

MAIN VIII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO M II 37 SBA_DTI
TO M II 38 SBA_DTO
TO M II 36 SBA_CS
TO M II 35 SBA_CLK
TO M II 32 XRST
REGD1.8V
REGA2.5V
L4302
J0JBC0000027
L4301
10U
C4301
PT
C4302
0.1
DOBCK 242 TO M V
DOMCK 240 TO M V
DOLRCK 236 TO M V
DODAT 239 TO M V
AIDAT1 237 TO M V
AIDAT0 238 TO M V
R4305
10
C4312
0.1
C4311
PT
IC4301
AK4563AVF
28 PDN
27 CCLK
26 CSN
25 CDT1
24 CDTO
23 BCLK
22 MCLK
21 LRCK
20 SDTI
19 SDTO1
18 SDTO0
17 VT
16 DGND
15 VD
1 LOUT
2 ROUT
3 INTL1
4 INTR1
5 INTL0
6 INTR0
7 EXTL
8 EXTR
9 LIN
10 RIN
11 VCOM
12 AGND
13 VA
14 VREF
TO M VI 272 A_OUT_L
TO M VI 273 A_OUT_R
TO M I 295 A_M_OUT_L
TO M I 296 A_M_OUT_R
TO M I 270 A_L/HP_L
TO M I 271 A_R/GND
C4309
PT
C4310
1
C4307
10/6.3V
C4308
0.1
R4301
100
C4305
1
C4306
1
R4302
100
R4303
PT
R4304
PT
PT

LINK TO VOLTAGE CHART

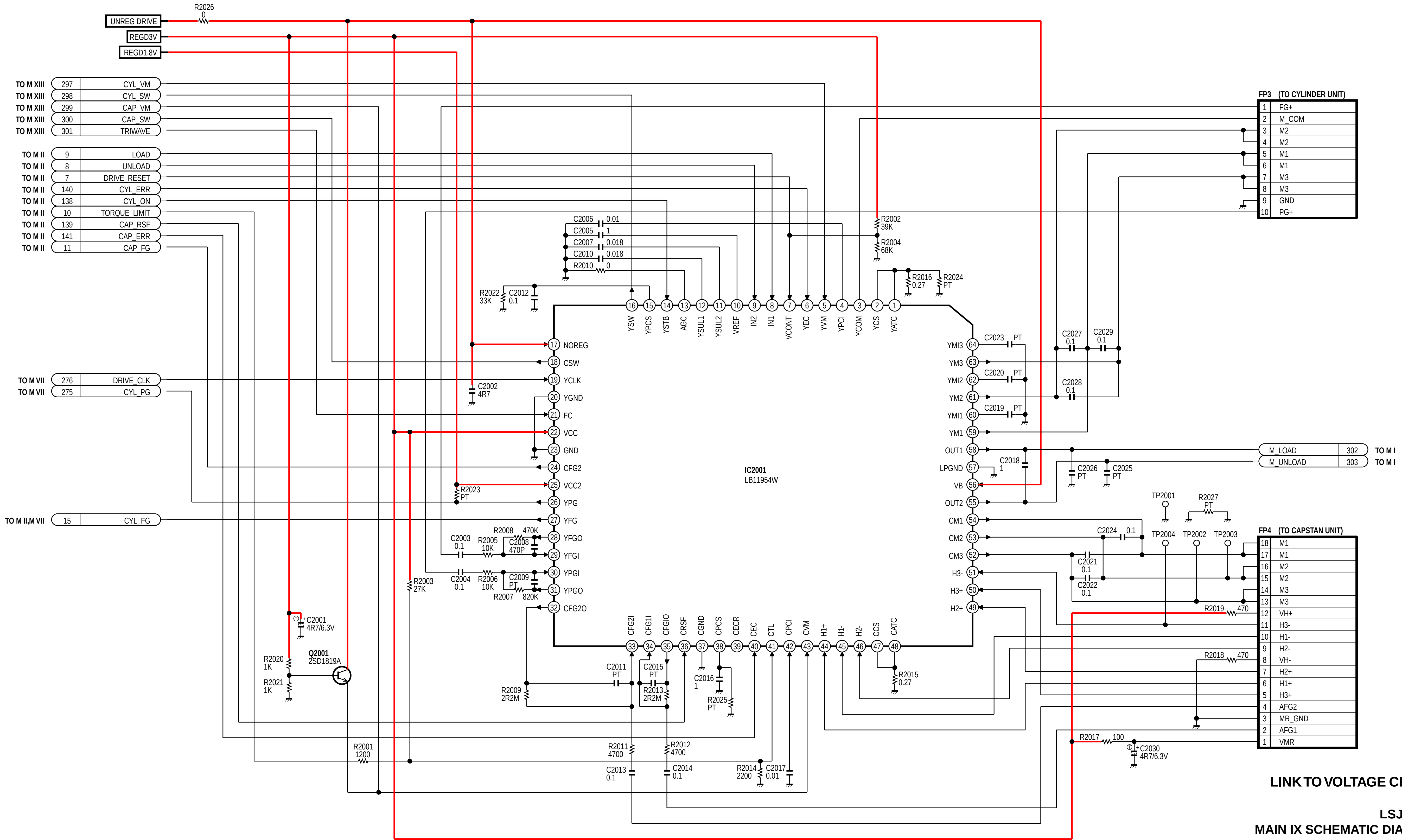
LSJB8165
MAIN VIII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN IX SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


UNREG DRIVE
REGD3V
REGD1.8V
R2026 0
TO M XIII 297 CYL_VM
TO M XIII 298 CYL_SW
TO M XIII 299 CAP_VM
TO M XIII 300 CAP_SW
TO M XIII 301 TRIWAVE
TO M II 9 LOAD
TO M II 8 UNLOAD
TO M II 7 DRIVE_RESET
TO M II 140 CYL_ERR
TO M II 138 CYL_ON
TO M II 10 TORQUE_LIMIT
TO M II 139 CAP_RSF
TO M II 141 CAP_ERR
TO M II 11 CAP_FG
TO M VII 276 DRIVE_CLK
TO M VII 275 CYL_PG
TO M II,M VII 15 CYL_FG
FP3 (TO CYLINDER UNIT)
1 FG+
2 M_COM
3 M2
4 M2
5 M1
6 M1
7 M3
8 M3
9 GND
10 PG+
C2006 0.01
C2005 1
C2007 0.018
C2010 0.018
R2010 0
R2002 39K
R2004 68K
R2016 0.27
R2024 PT
R2022 33K
C2012 0.1
16 YSW
15 YPCS
14 YSTB
13 AGC
12 YSUL1
11 YSUL2
10 VREF
9 IN2
8 IN1
7 VCONT
6 YEC
5 YVM
4 YPCI
3 YCOM
2 YCS
1 YATC
17 NOREG
18 CSW
19 YCLK
20 YGND
21 FC
22 VCC
23 GND
24 CFG2
25 VCC2
26 YPG
27 YFG
28 YFGO
29 YFGI
30 YPGI
31 YPGO
32 CFG2O
C2002 4R7
R2023 PT
R2008 470K
C2003 0.1
R2005 10K
C2008 470P
C2004 0.1
R2006 10K
C2009 PT
R2007 820K
R2003 27K
IC2001
LB11954W
64 YMI3
63 YM3
62 YMI2
61 YM2
60 YMI1
59 YM1
58 OUT1
57 LPGND
56 VB
55 OUT2
54 CM1
53 CM2
52 CM3
51 H3-
50 H3+
49 H2+
C2023 PT
C2020 PT
C2019 PT
C2018 1
C2027 0.1
C2029 0.1
C2028 0.1
C2026 PT
C2025 PT
M_LOAD 302 TO M I
M_UNLOAD 303 TO M I
TP2001
R2027 PT
C2024 0.1
TP2004
TP2002
TP2003
C2021 0.1
C2022 0.1
R2019 470
R2018 470
R2017 100
C2030 4R7/6.3V
FP4 (TO CAPSTAN UNIT)
18 M1
17 M1
16 M2
15 M2
14 M3
13 M3
12 VH+
11 H3-
10 H1-
9 H2-
8 VH-
7 H2+
6 H1+
5 H3+
4 AFG2
3 MR_GND
2 AFG1
1 VMR
33 CFG2I
34 CFG1I
35 CFG1O
36 CRSF
37 CGND
38 CPCS
39 CECR
40 CEC
41 CTL
42 CPCI
43 CVM
44 H1+
45 H1-
46 H2-
47 CCS
48 CATC
C2011 PT
C2015 PT
R2013 2R2M
C2016 1
R2025 PT
R2015 0.27
R2009 2R2M
R2011 4700
R2012 4700
C2013 0.1
C2014 0.1
R2014 2200
C2017 0.01
R2001 1200
C2001 4R7/6.3V
Q2001 2SD1819A
R2020 1K
R2021 1K

LINK TO VOLTAGE CHART

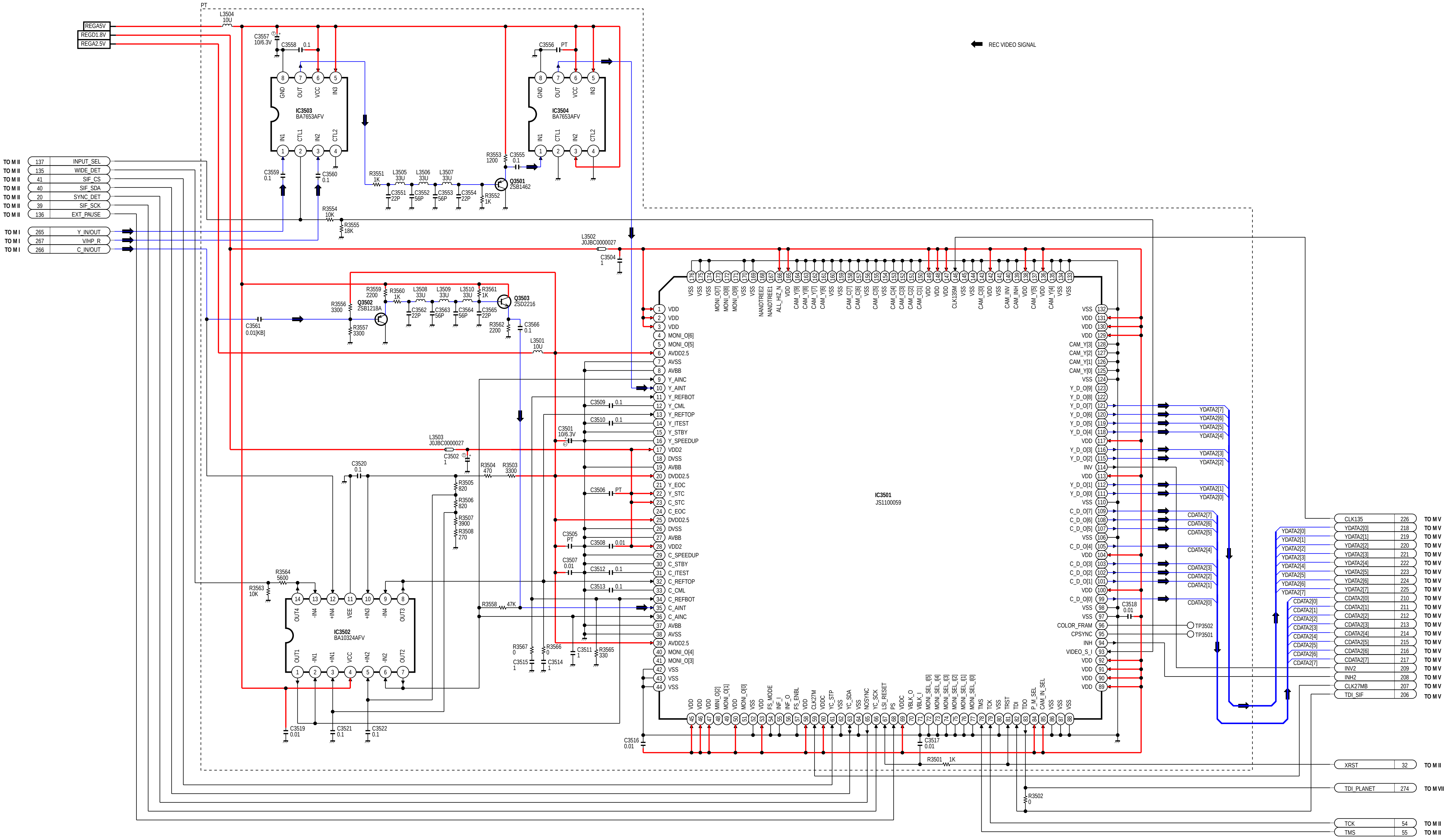
LSJB8165
MAIN IX SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN X SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


REC VIDEO SIGNAL
PT
REGA5V
REGD1.8V
REGA2.5V
L3504 10U
C3557 10/6.3V
C3558 0.1
IC3503 BA7653AFV
IC3504 BA7653AFV
C3556 PT
GND
OUT
VCC
IN3
IN1
CTL1
IN2
CTL2
C3559 0.1
C3560 0.1
R3551 1K
L3505 33U
L3506 33U
L3507 33U
C3551 22P
C3552 56P
C3553 56P
C3554 22P
R3552 1K
R3553 1200
C3555 0.1
Q3501 2SB1462
R3554 10K
R3555 18K
TO M II
137 INPUT_SEL
135 WIDE_DET
41 SIF_CS
40 SIF_SDA
20 SYNC_DET
39 SIF_SCK
136 EXT_PAUSE
TO M I
265 Y_IN/OUT
267 V/HP_R
266 C_IN/OUT
L3502 J0JBC0000027
C3504 1
R3559 2200
R3560 1K
L3508 33U
L3509 33U
L3510 33U
R3561 1K
Q3503 2SD2216
R3556 3300
Q3502 2SB1218A
C3562 22P
C3563 56P
C3564 56P
C3565 22P
R3557 3300
R3562 2200
C3566 0.1
C3561 0.01[KB]
L3501 10U
L3503 J0JBC0000027
C3502 1
C3501 10/6.3V
C3520 0.1
R3504 470
R3503 3300
R3505 820
R3506 820
R3507 3900
R3508 270
C3509 0.1
C3510 0.1
C3506 PT
C3505 PT
C3508 0.01
C3507 0.01
C3512 0.1
C3513 0.1
R3564 5600
R3563 10K
IC3502 BA10324AFV
OUT4
-IN4
+IN4
VEE
+IN3
-IN3
OUT3
OUT1
-IN1
+IN1
VCC
+IN2
-IN2
OUT2
R3558 47K
R3567 0
R3566 0
C3515 1
C3514 1
C3511 1
R3565 330
C3519 0.01
C3521 0.1
C3522 0.1
C3516 0.01
C3517 0.01
R3501 1K
C3518 0.01
IC3501 JS1100059
1 VDD
2 VDD
3 VDD
4 MONI_O[6]
5 MONI_O[5]
6 AVDD2.5
7 AVSS
8 AVBB
9 Y_AINC
10 Y_AINT
11 Y_REFBOT
12 Y_CML
13 Y_REFTOP
14 Y_ITEST
15 Y_STBY
16 Y_SPEEDUP
17 VDD2
18 DVSS
19 AVBB
20 DVDD2.5
21 Y_EOC
22 Y_STC
23 C_STC
24 C_EOC
25 DVDD2.5
26 DVSS
27 AVBB
28 VDD2
29 C_SPEEDUP
30 C_STBY
31 C_ITEST
32 C_REFTOP
33 C_CML
34 C_REFBOT
35 C_AINT
36 C_AINC
37 AVBB
38 AVSS
39 AVDD2.5
40 MONI_O[4]
41 MONI_O[3]
42 VSS
43 VSS
44 VSS
VSS 132
VDD 131
VDD 130
VDD 129
CAM_Y[3] 128
CAM_Y[2] 127
CAM_Y[1] 126
CAM_Y[0] 125
VSS 124
Y_D_O[9] 123
Y_D_O[8] 122
Y_D_O[7] 121
Y_D_O[6] 120
Y_D_O[5] 119
Y_D_O[4] 118
VDD 117
Y_D_O[3] 116
Y_D_O[2] 115
INV 114
VDD 113
Y_D_O[1] 112
Y_D_O[0] 111
VSS 110
C_D_O[7] 109
C_D_O[6] 108
C_D_O[5] 107
VSS 106
C_D_O[4] 105
VDD 104
C_D_O[3] 103
C_D_O[2] 102
C_D_O[1] 101
VDD 100
C_D_O[0] 99
VSS 98
VSS 97
COLOR_FRAM 96
CPSYNC 95
INH 94
VIDEO_S_I 93
VDD 92
VDD 91
VDD 90
VDD 89
TP3502
TP3501
YDATA2[7]
YDATA2[6]
YDATA2[5]
YDATA2[4]
YDATA2[3]
YDATA2[2]
YDATA2[1]
YDATA2[0]
CDATA2[7]
CDATA2[6]
CDATA2[5]
CDATA2[4]
CDATA2[3]
CDATA2[2]
CDATA2[1]
CDATA2[0]
TO M V
CLK135 226
YDATA2[0] 218
YDATA2[1] 219
YDATA2[2] 220
YDATA2[3] 221
YDATA2[4] 222
YDATA2[5] 223
YDATA2[6] 224
YDATA2[7] 225
CDATA2[0] 210
CDATA2[1] 211
CDATA2[2] 212
CDATA2[3] 213
CDATA2[4] 214
CDATA2[5] 215
CDATA2[6] 216
CDATA2[7] 217
INV2 209
INH2 208
CLK27MB 207
TDI_SIF 206
XRST 32 TO M II
TDI_PLANET 274 TO M VII
R3502 0
TCK 54 TO M II
TMS 55 TO M II

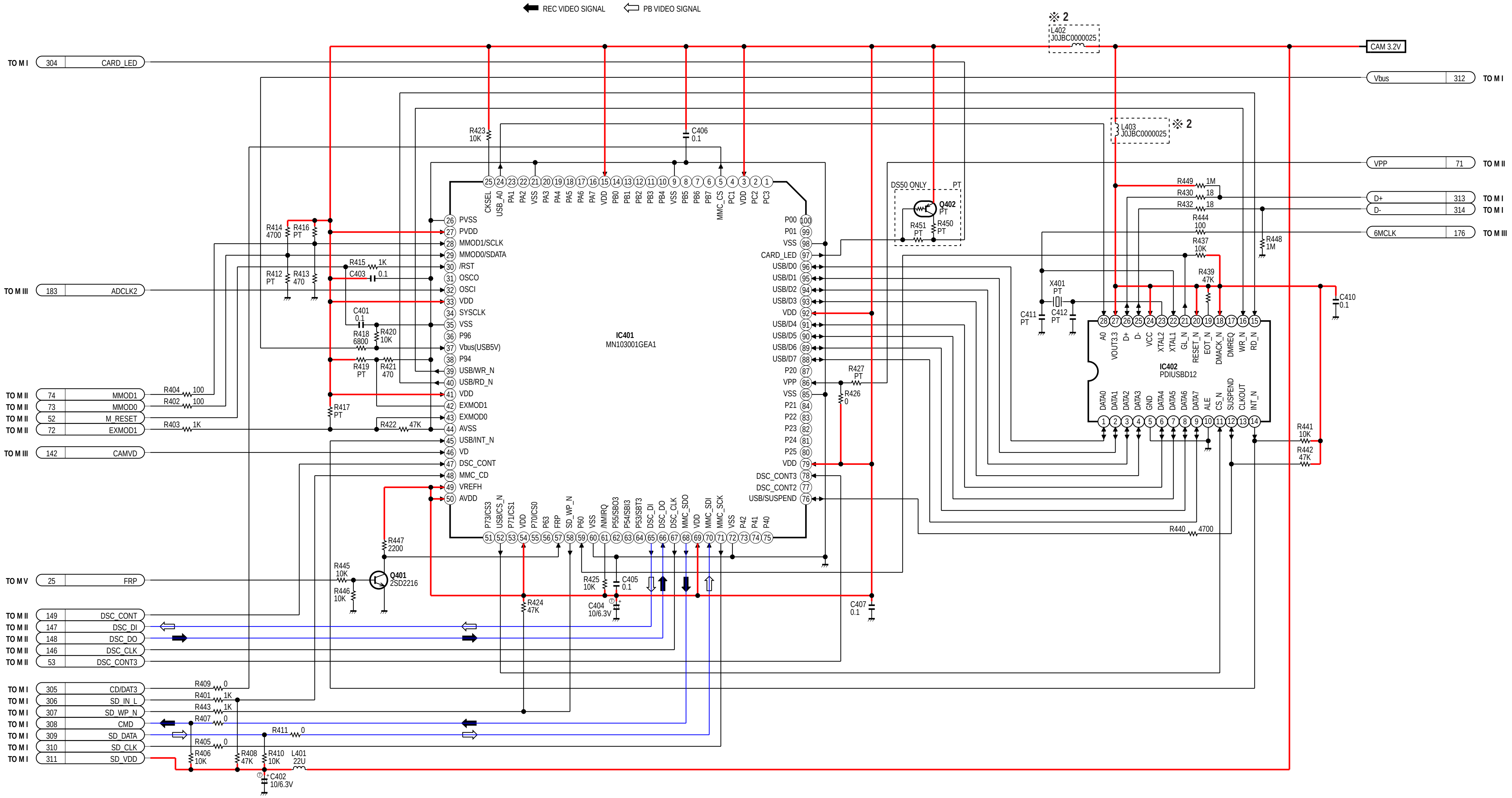
LSJB8165
MAIN X SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XI SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

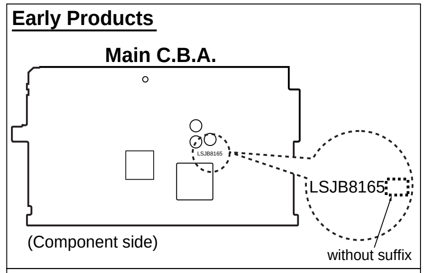
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.



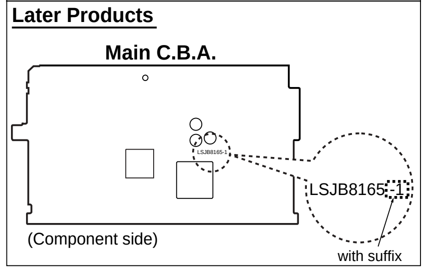
REC VIDEO SIGNAL
PB VIDEO SIGNAL
IC401
MN103001GEA1
IC402
PDIUSBD12
Q401
2SD2216
Q402
PT
DS50 ONLY
X401
PT
※ 2
L402
J0JBC0000025
L403
J0JBC0000025
CAM 3.2V
Vbus 312 TO M I
VPP 71 TO M II
D+ 313 TO M I
D- 314 TO M I
6MCLK 176 TO M III
TO M I 304 CARD_LED
TO M III 183 ADCLK2
TO M II 74 MMOD1
TO M II 73 MMOD0
TO M II 52 M_RESET
TO M II 72 EXMOD1
TO M III 142 CAMVD
TO M V 25 FRP
TO M II 149 DSC_CONT
TO M II 147 DSC_DI
TO M II 148 DSC_DO
TO M II 146 DSC_CLK
TO M II 53 DSC_CONT3
TO M I 305 CD/DAT3
TO M I 306 SD_IN_L
TO M I 307 SD_WP_N
TO M I 308 CMD
TO M I 309 SD_DATA
TO M I 310 SD_CLK
TO M I 311 SD_VDD

※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)



Early Products
Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix



Later Products
Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LINK TO VOLTAGE CHART

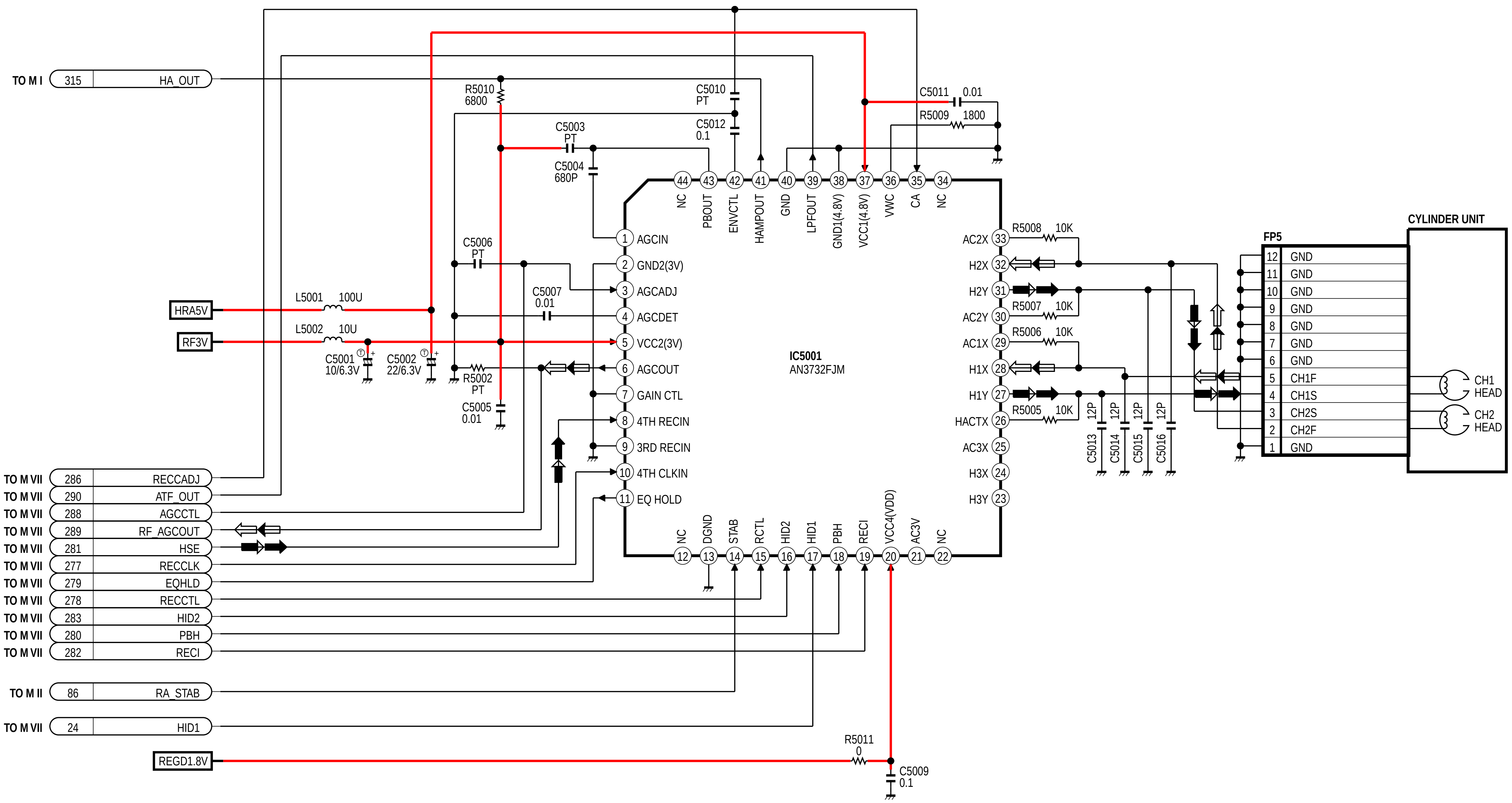
MAIN XII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

⬅ REC VIDEO SIGNAL ⇦ PB VIDEO SIGNAL ⬅ REC AUDIO SIGNAL ⇦ PB AUDIO SIGNAL



TO M I
315
HA_OUT
HRA5V
RF3V
TO M VII
286
RECCADJ
290
ATF_OUT
288
AGCCTL
289
RF_AGCOUT
281
HSE
277
RECCLK
279
EQHLD
278
RECCTL
283
HID2
280
PBH
282
RECI
TO M II
86
RA_STAB
24
HID1
REGD1.8V
R5010
6800
C5010
PT
C5012
0.1
C5003
PT
C5004
680P
C5011
0.01
R5009
1800
C5006
PT
C5007
0.01
L5001
100U
L5002
10U
C5001
10/6.3V
C5002
22/6.3V
R5002
PT
C5005
0.01
R5008
10K
R5007
10K
R5006
10K
R5005
10K
12P
C5013
C5014
C5015
C5016
R5011
0
C5009
0.1
IC5001
AN3732FJM
1 AGCIN
2 GND2(3V)
3 AGCADJ
4 AGCDET
5 VCC2(3V)
6 AGCOUT
7 GAIN CTL
8 4TH RECIN
9 3RD RECIN
10 4TH CLKIN
11 EQ HOLD
12 NC
13 DGND
14 STAB
15 RCTL
16 HID2
17 HID1
18 PBH
19 RECI
20 VCC4(VDD)
21 AC3V
22 NC
23 H3Y
24 H3X
25 AC3X
26 HACTX
27 H1Y
28 H1X
29 AC1X
30 AC2Y
31 H2Y
32 H2X
33 AC2X
34 NC
35 CA
36 VWC
37 VCC1(4.8V)
38 GND1(4.8V)
39 LPFOUT
40 GND
41 HAMPOUT
42 ENVCTL
43 PBOUT
44 NC
FP5
12 GND
11 GND
10 GND
9 GND
8 GND
7 GND
6 GND
5 CH1F
4 CH1S
3 CH2S
2 CH2F
1 GND
CYLINDER UNIT
CH1 HEAD
CH2 HEAD

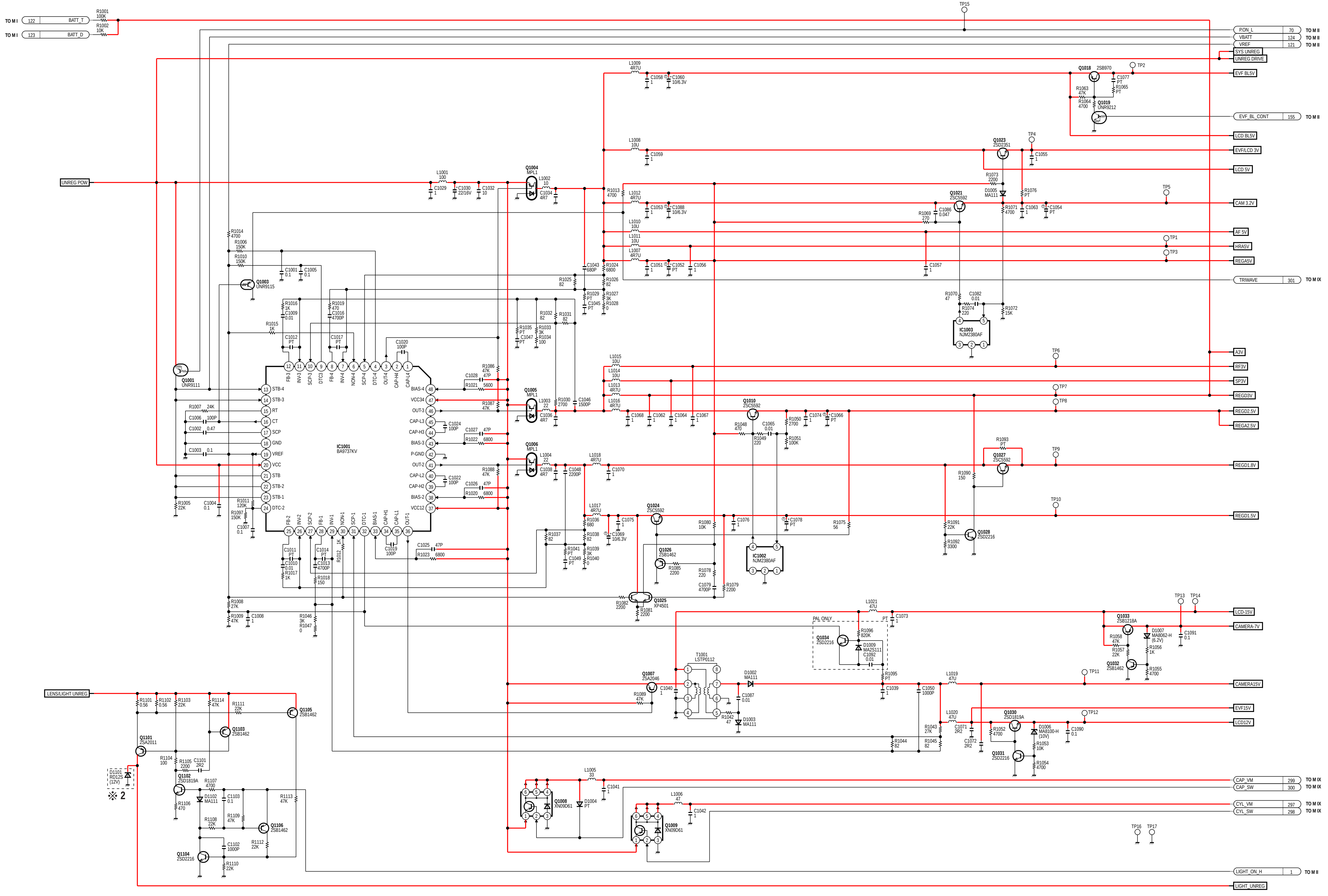
LSJB8165
MAIN XII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XIII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

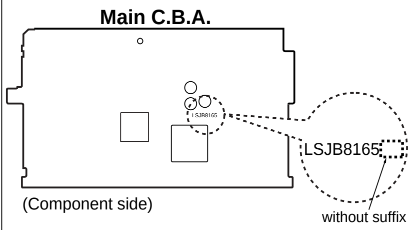
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.


TO M I 122 BATT_T
TO M I 123 BATT_D
R1001 100K
R1002 10K
UNREG POW
LENS/LIGHT UNREG
TP15
PON_L 70 TO M II
VBATT 124 TO M II
VREF 121 TO M II
SYS UNREG
UNREG DRIVE
EVF BL5V
EVF_BL_CONT 155 TO M II
LCD BL5V
EVF/LCD 3V
LCD 5V
CAM 3.2V
AF 5V
HRA5V
REGA5V
TRIWAVE 301 TO M IX
A3V
RF3V
SP3V
REGD3V
REGD2.5V
REGA2.5V
REGD1.8V
REGD1.5V
LCD-15V
CAMERA-7V
CAMERA15V
EVF15V
LCD12V
CAP_VM 299 TO M IX
CAP_SW 300 TO M IX
CYL_VM 297 TO M IX
CYL_SW 298 TO M IX
LIGHT_ON_H 1 TO M II
LIGHT_UNREG
IC1001 BA9737KV
IC1002 NJM2380AF
IC1003 NJM2380AF
T1001 LSTP0112
Q1001 UNR9111
Q1003 UNR9115
Q1004 MPL1
Q1005 MPL1
Q1006 MPL1
Q1007 2SA2046
Q1008 XN09D61
Q1009 XN09D61
Q1018 2SB970
Q1019 UNR9212
Q1023 2SD2351
Q1021 2SC5592
Q1010 2SC5592
Q1027 2SC5592
Q1024 2SC5592
Q1028 2SD2216
Q1026 2SB1462
Q1025 XP4501
Q1033 2SB1218A
Q1032 2SB1462
Q1034 2SD2216
Q1030 2SD1819A
Q1031 2SD2216
Q1101 2SA2011
Q1102 2SD1819A
Q1103 2SB1462
Q1104 2SD2216
Q1105 2SB1462
Q1106 2SB1462
D1101 RD12S (12V)
※ 2
PAL ONLY

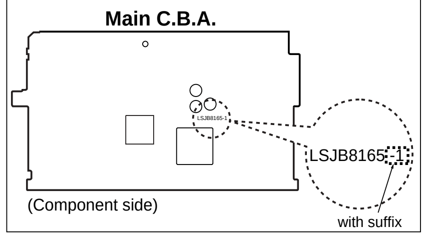
※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LINK TO VOLTAGE CHART

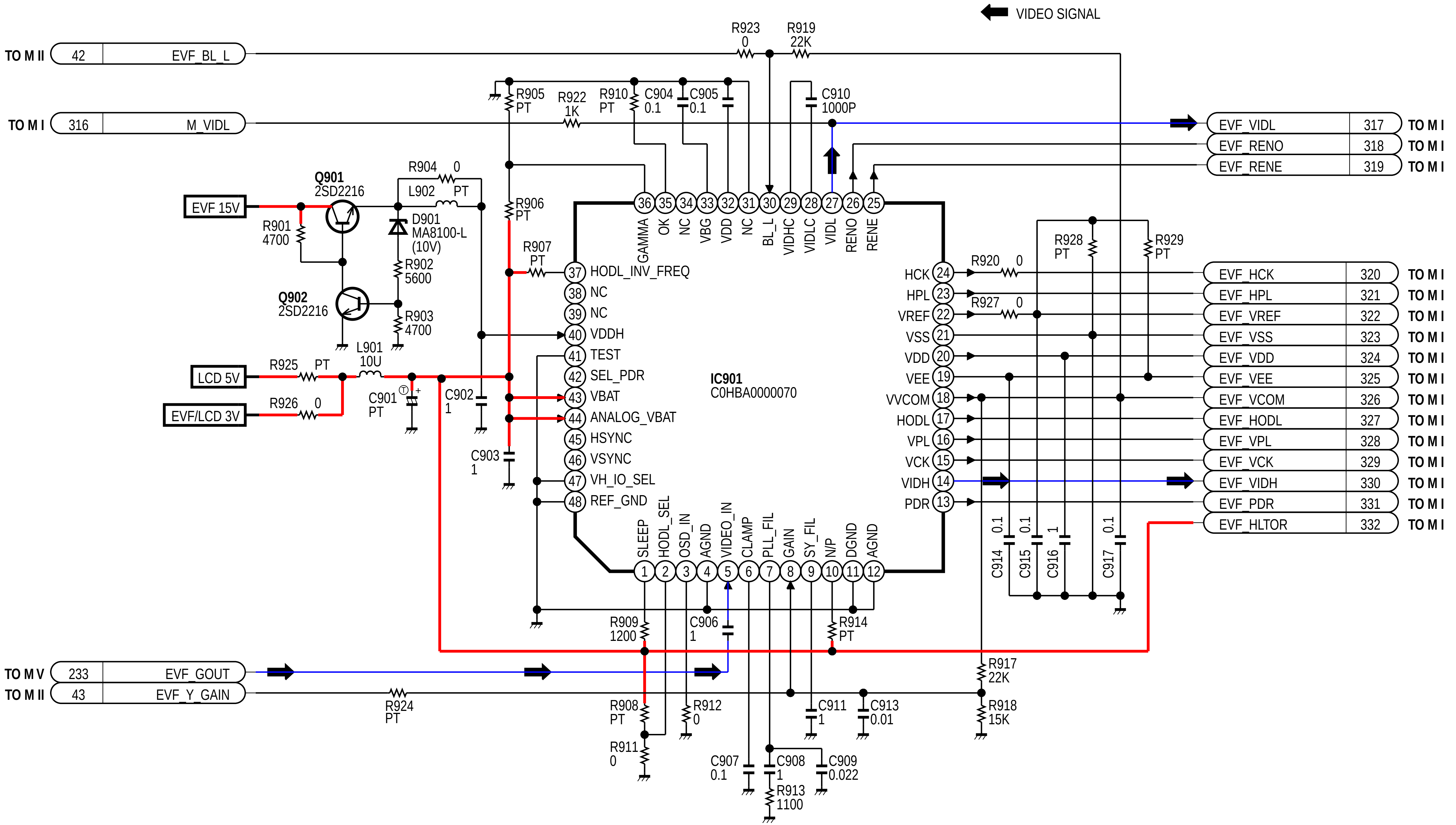
LSJB8165
MAIN XIII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XIV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



VIDEO SIGNAL
TO M II 42 EVF_BL_L
TO M I 316 M_VIDL
EVF 15V
LCD 5V
EVF/LCD 3V
TO M V 233 EVF_GOUT
TO M II 43 EVF_Y_GAIN
R923 0
R919 22K
R905 PT
R922 1K
R910 PT
C904 0.1
C905 0.1
C910 1000P
R904 0
L902 PT
Q901 2SD2216
R901 4700
D901 MA8100-L (10V)
R902 5600
Q902 2SD2216
R903 4700
R906 PT
R907 PT
R925 PT
L901 10U
R926 0
C901 PT
C902 1
C903 1
R924 PT
IC901 C0HBA0000070
36 GAMMA
35 OK
34 NC
33 VBG
32 VDD
31 NC
30 BL_L
29 VIDHC
28 VIDLC
27 VIDL
26 RENO
25 RENE
37 HODL_INV_FREQ
38 NC
39 NC
40 VDDH
41 TEST
42 SEL_PDR
43 VBAT
44 ANALOG_VBAT
45 HSYNC
46 VSYNC
47 VH_IO_SEL
48 REF_GND
1 SLEEP
2 HODL_SEL
3 OSD_IN
4 AGND
5 VIDEO_IN
6 CLAMP
7 PLL_FIL
8 GAIN
9 SY_FIL
10 N/P
11 DGND
12 AGND
HCK 24
HPL 23
VREF 22
VSS 21
VDD 20
VEE 19
VVCOM 18
HODL 17
VPL 16
VCK 15
VIDH 14
PDR 13
R920 0
R927 0
R928 PT
R929 PT
C914 0.1
C915 0.1
C916 1
C917 0.1
R909 1200
C906 1
R914 PT
R908 PT
R911 0
R912 0
C907 0.1
C908 1
R913 1100
C909 0.022
C911 1
C913 0.01
R917 22K
R918 15K
EVF_VIDL 317 TO M I
EVF_RENO 318 TO M I
EVF_RENE 319 TO M I
EVF_HCK 320 TO M I
EVF_HPL 321 TO M I
EVF_VREF 322 TO M I
EVF_VSS 323 TO M I
EVF_VDD 324 TO M I
EVF_VEE 325 TO M I
EVF_VCOM 326 TO M I
EVF_HODL 327 TO M I
EVF_VPL 328 TO M I
EVF_VCK 329 TO M I
EVF_VIDH 330 TO M I
EVF_PDR 331 TO M I
EVF_HLTOR 332 TO M I

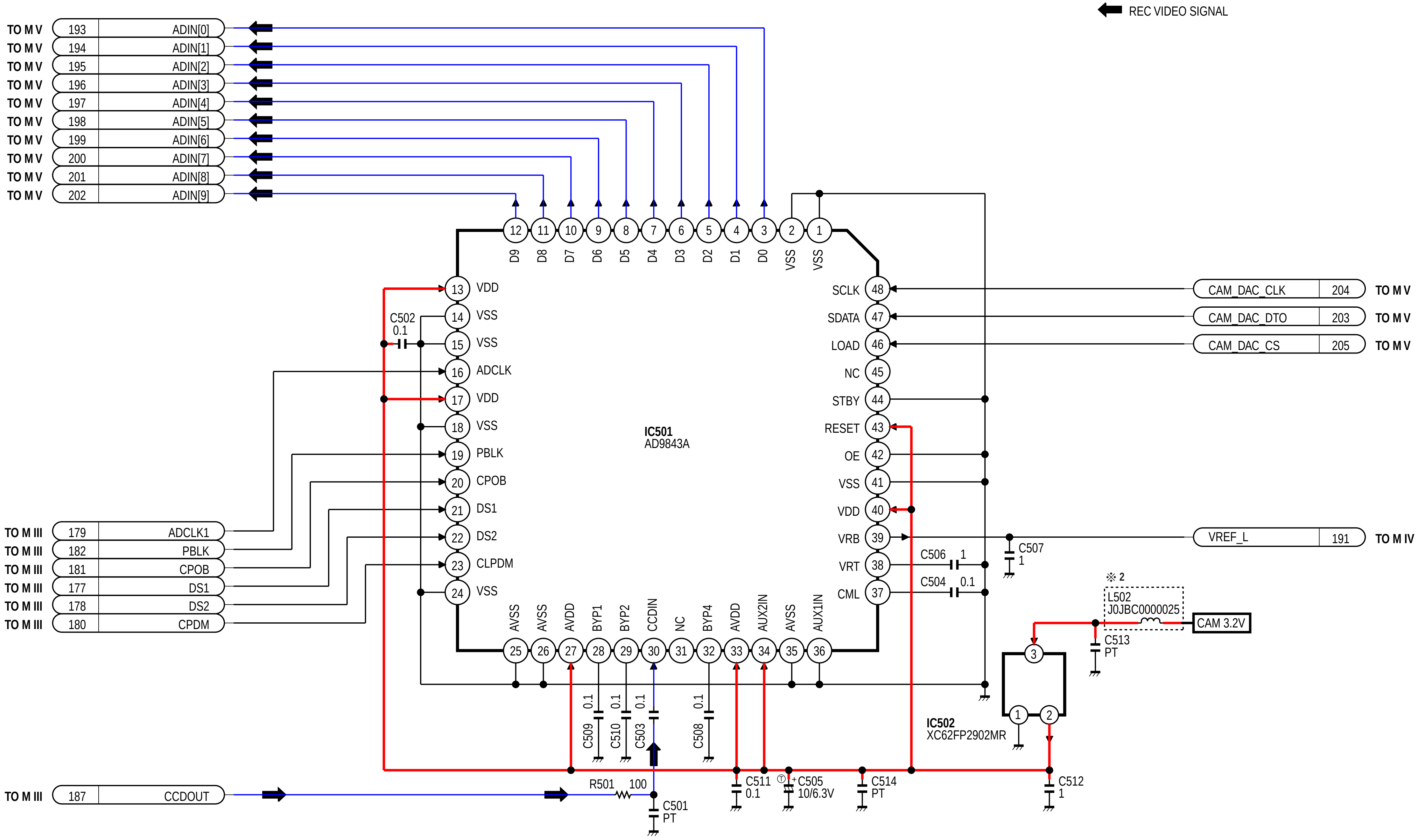
LINK TO VOLTAGE CHART

MAIN XV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

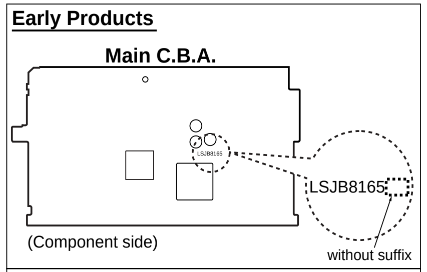
NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

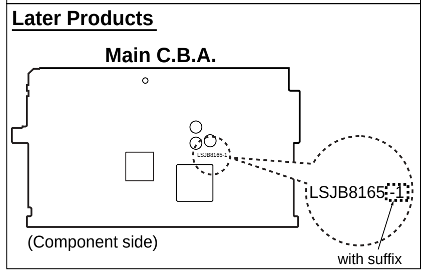
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


REC VIDEO SIGNAL
TO M V 193 ADIN[0]
TO M V 194 ADIN[1]
TO M V 195 ADIN[2]
TO M V 196 ADIN[3]
TO M V 197 ADIN[4]
TO M V 198 ADIN[5]
TO M V 199 ADIN[6]
TO M V 200 ADIN[7]
TO M V 201 ADIN[8]
TO M V 202 ADIN[9]
12 D9
11 D8
10 D7
9 D6
8 D5
7 D4
6 D3
5 D2
4 D1
3 D0
2 VSS
1 VSS
13 VDD
14 VSS
15 VSS
16 ADCLK
17 VDD
18 VSS
19 PBLK
20 CPOB
21 DS1
22 DS2
23 CLPDM
24 VSS
C502
0.1
IC501
AD9843A
48 SCLK
47 SDATA
46 LOAD
45 NC
44 STBY
43 RESET
42 OE
41 VSS
40 VDD
39 VRB
38 VRT
37 CML
CAM_DAC_CLK 204 TO M V
CAM_DAC_DTO 203 TO M V
CAM_DAC_CS 205 TO M V
VREF_L 191 TO M IV
C507
1
C506
1
C504
0.1
TO M III 179 ADCLK1
TO M III 182 PBLK
TO M III 181 CPOB
TO M III 177 DS1
TO M III 178 DS2
TO M III 180 CPDM
25 AVSS
26 AVSS
27 AVDD
28 BYP1
29 BYP2
30 CCDIN
31 NC
32 BYP4
33 AVDD
34 AUX2IN
35 AVSS
36 AUX1IN
0.1 C509
0.1 C510
0.1 C503
0.1 C508
※ 2
L502
J0JBC0000025
CAM 3.2V
C513
PT
IC502
XC62FP2902MR
3
1
2
TO M III 187 CCDOUT
R501 100
C501
PT
C511
0.1
Ⓣ
C505
10/6.3V
C514
PT
C512
1

※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)


Early Products
Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix


Later Products
Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	---------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

REAR SCHEMATIC DIAGRAM

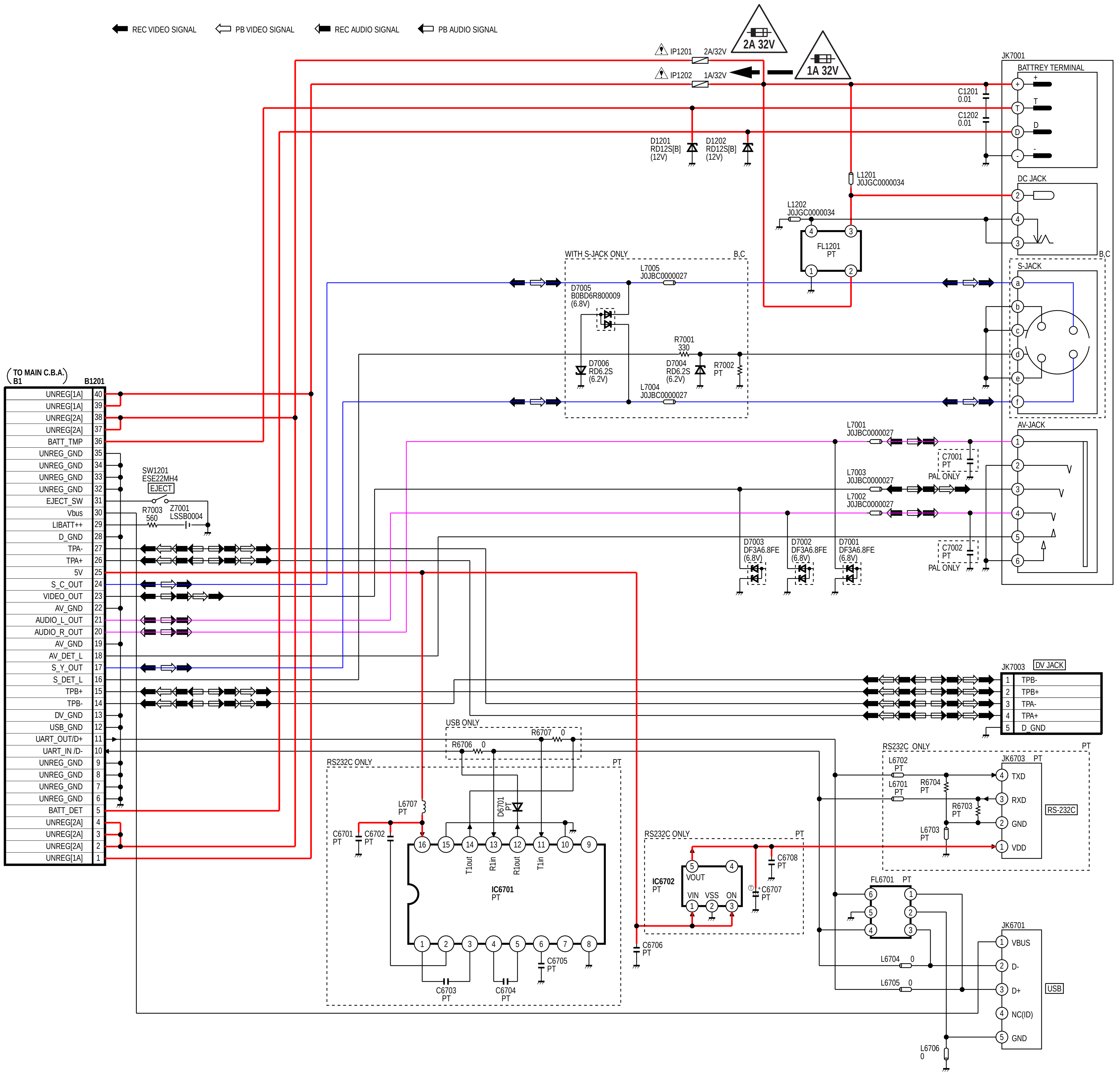
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
2A 32V
1A 32V
IP1201 2A/32V
IP1202 1A/32V
JK7001
BATTREY TERMINAL
C1201 0.01
C1202 0.01
D1201 RD12S[B] (12V)
D1202 RD12S[B] (12V)
L1201 J0JGC0000034
L1202 J0JGC0000034
FL1201 PT
DC JACK
B,C
S-JACK
WITH S-JACK ONLY
L7005 J0JBC0000027
D7005 B0BD6R800009 (6.8V)
R7001 330
R7002 PT
D7006 RD6.2S (6.2V)
D7004 RD6.2S (6.2V)
L7004 J0JBC0000027
AV-JACK
L7001 J0JBC0000027
C7001 PT
PAL ONLY
L7003 J0JBC0000027
L7002 J0JBC0000027
D7003 DF3A6.8FE (6.8V)
D7002 DF3A6.8FE (6.8V)
D7001 DF3A6.8FE (6.8V)
C7002 PT
PAL ONLY
TO MAIN C.B.A. B1
B1201
UNREG[1A] 40
UNREG[1A] 39
UNREG[2A] 38
UNREG[2A] 37
BATT_TMP 36
UNREG_GND 35
UNREG_GND 34
UNREG_GND 33
UNREG_GND 32
EJECT_SW 31
Vbus 30
LIBATT++ 29
D_GND 28
TPA- 27
TPA+ 26
5V 25
S_C_OUT 24
VIDEO_OUT 23
AV_GND 22
AUDIO_L_OUT 21
AUDIO_R_OUT 20
AV_GND 19
AV_DET_L 18
S_Y_OUT 17
S_DET_L 16
TPB+ 15
TPB- 14
DV_GND 13
USB_GND 12
UART_OUT/D+ 11
UART_IN /D- 10
UNREG_GND 9
UNREG_GND 8
UNREG_GND 7
UNREG_GND 6
BATT_DET 5
UNREG[2A] 4
UNREG[2A] 3
UNREG[2A] 2
UNREG[1A] 1
SW1201 ESE22MH4
EJECT
R7003 560
Z7001 LSSB0004
JK7003 DV JACK
1 TPB-
2 TPB+
3 TPA-
4 TPA+
5 D_GND
USB ONLY
R6707 0
R6706 0
RS232C ONLY PT
L6707 PT
D6701 PT
C6701 PT
C6702 PT
T1out R1in R1out T1in
IC6701 PT
C6705 PT
C6703 PT
C6704 PT
RS232C ONLY PT
IC6702 PT
VOUT
VIN VSS ON
C6708 PT
C6707 PT
C6706 PT
RS232C ONLY PT
L6702 PT
L6701 PT
R6704 PT
R6703 PT
L6703 PT
JK6703 PT
TXD
RXD
GND
VDD
RS-232C
FL6701 PT
JK6701
VBUS
D-
D+
NC(ID)
GND
USB
L6704 0
L6705 0
L6706 0

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 2A 32V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 1A 32V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

LSJB8183
REAR SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

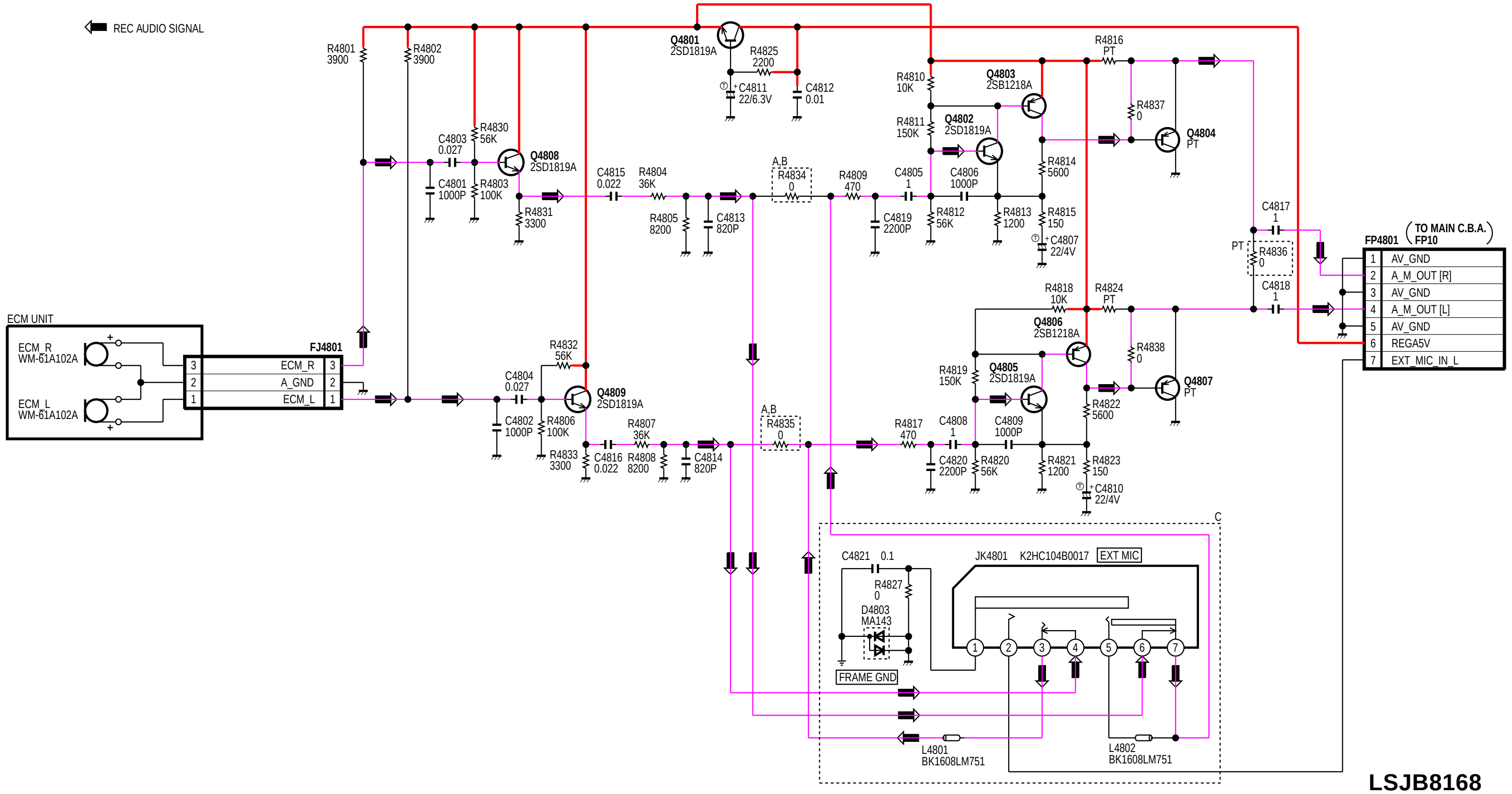
NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

MICROPHONE SCHEMATIC DIAGRAM

"FOR REFERENCE ONLY"

NOTE:
MICROPHONE C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


REC AUDIO SIGNAL
ECM UNIT
ECM_R WM-61A102A
ECM_L WM-61A102A
FJ4801
ECM_R
A_GND
ECM_L
Q4801 2SD1819A
Q4802 2SD1819A
Q4803 2SB1218A
Q4804 PT
Q4805 2SD1819A
Q4806 2SB1218A
Q4807 PT
Q4808 2SD1819A
Q4809 2SD1819A
TO MAIN C.B.A. FP10
FP4801
AV_GND
A_M_OUT [R]
AV_GND
A_M_OUT [L]
AV_GND
REGA5V
EXT_MIC_IN_L
JK4801 K2HC104B0017
EXT MIC
D4803 MA143
FRAME GND
L4801 BK1608LM751
L4802 BK1608LM751

LSJB8168

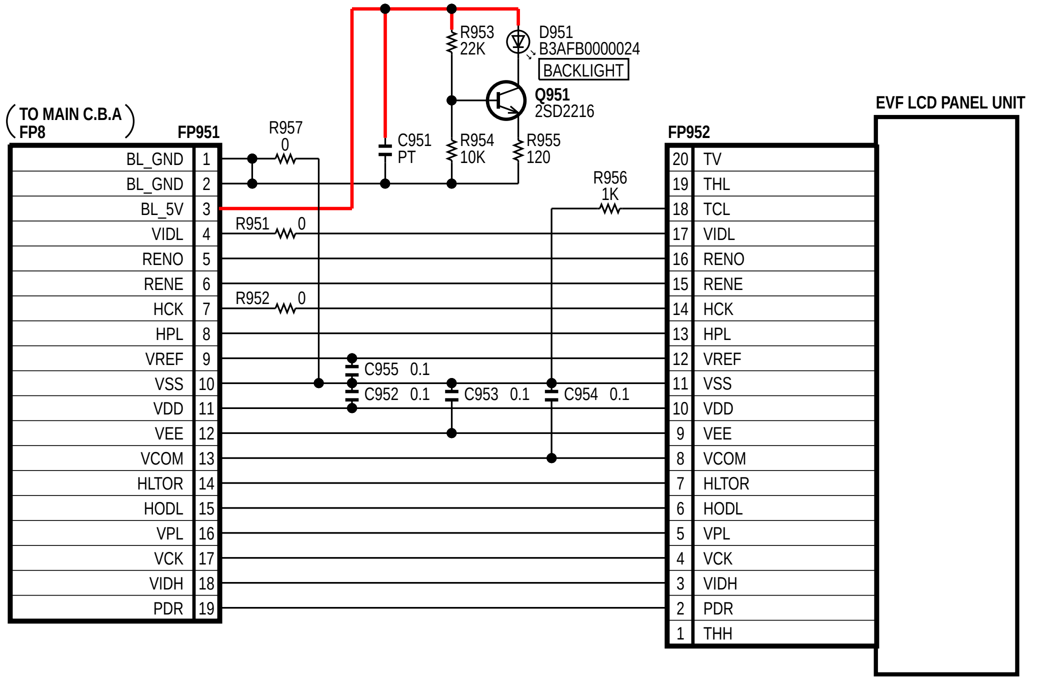
EVF BACKLIGHT SCHEMATIC DIAGRAM

"FOR REFERENCE ONLY"

NOTE:
EVF BACK LIGHT C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

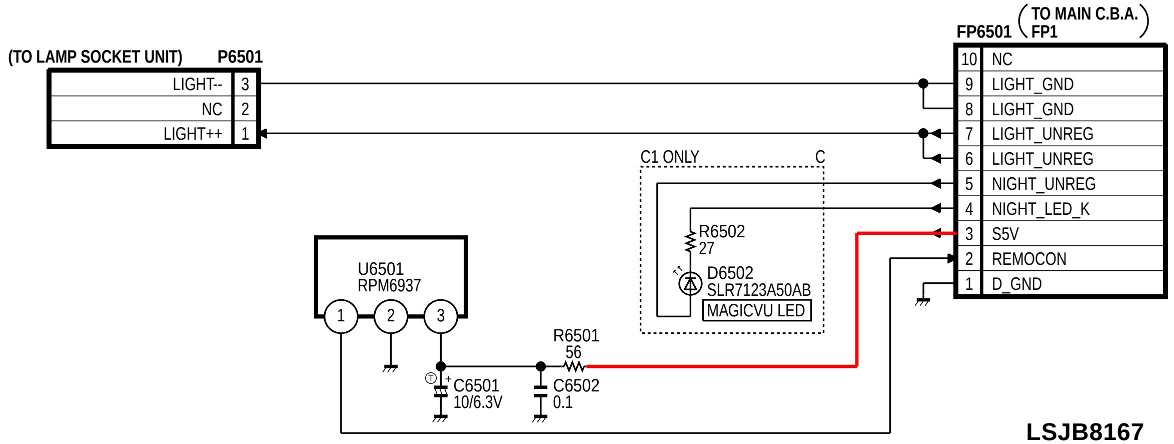

TO MAIN C.B.A FP8
FP951
BL_GND 1
BL_GND 2
BL_5V 3
VIDL 4
RENO 5
RENE 6
HCK 7
HPL 8
VREF 9
VSS 10
VDD 11
VEE 12
VCOM 13
HLTOR 14
HODL 15
VPL 16
VCK 17
VIDH 18
PDR 19
R957 0
R951 0
R952 0
R953 22K
D951 B3AFB0000024
BACKLIGHT
Q951 2SD2216
C951 PT
R954 10K
R955 120
R956 1K
C955 0.1
C952 0.1
C953 0.1
C954 0.1
FP952
20 TV
19 THL
18 TCL
17 VIDL
16 RENO
15 RENE
14 HCK
13 HPL
12 VREF
11 VSS
10 VDD
9 VEE
8 VCOM
7 HLTOR
6 HODL
5 VPL
4 VCK
3 VIDH
2 PDR
1 THH
EVF LCD PANEL UNIT

LSJB8169

FRONT SCHEMATIC DIAGRAM

"FOR REFERENCE ONLY"

NOTE:
FRONT C.B.A. IS NOT SERVICEABLE AND IS SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


(TO LAMP SOCKET UNIT)
P6501
LIGHT-- 3
NC 2
LIGHT++ 1
TO MAIN C.B.A. FP1
FP6501
10 NC
9 LIGHT_GND
8 LIGHT_GND
7 LIGHT_UNREG
6 LIGHT_UNREG
5 NIGHT_UNREG
4 NIGHT_LED_K
3 S5V
2 REMOCON
1 D_GND
C1 ONLY
R6502 27
D6502 SLR7123A50AB
MAGICVU LED
U6501 RPM6937
R6501 56
C6501 10/6.3V
C6502 0.1

LSJB8167

MICROPHONE/FRONT/EVF BACKLIGHT SCHEMATIC DIAGRAMS
PV-DV102/PV-DV202/PV-DV402

LCD SCHEMATIC DIAGRAM (A, B)

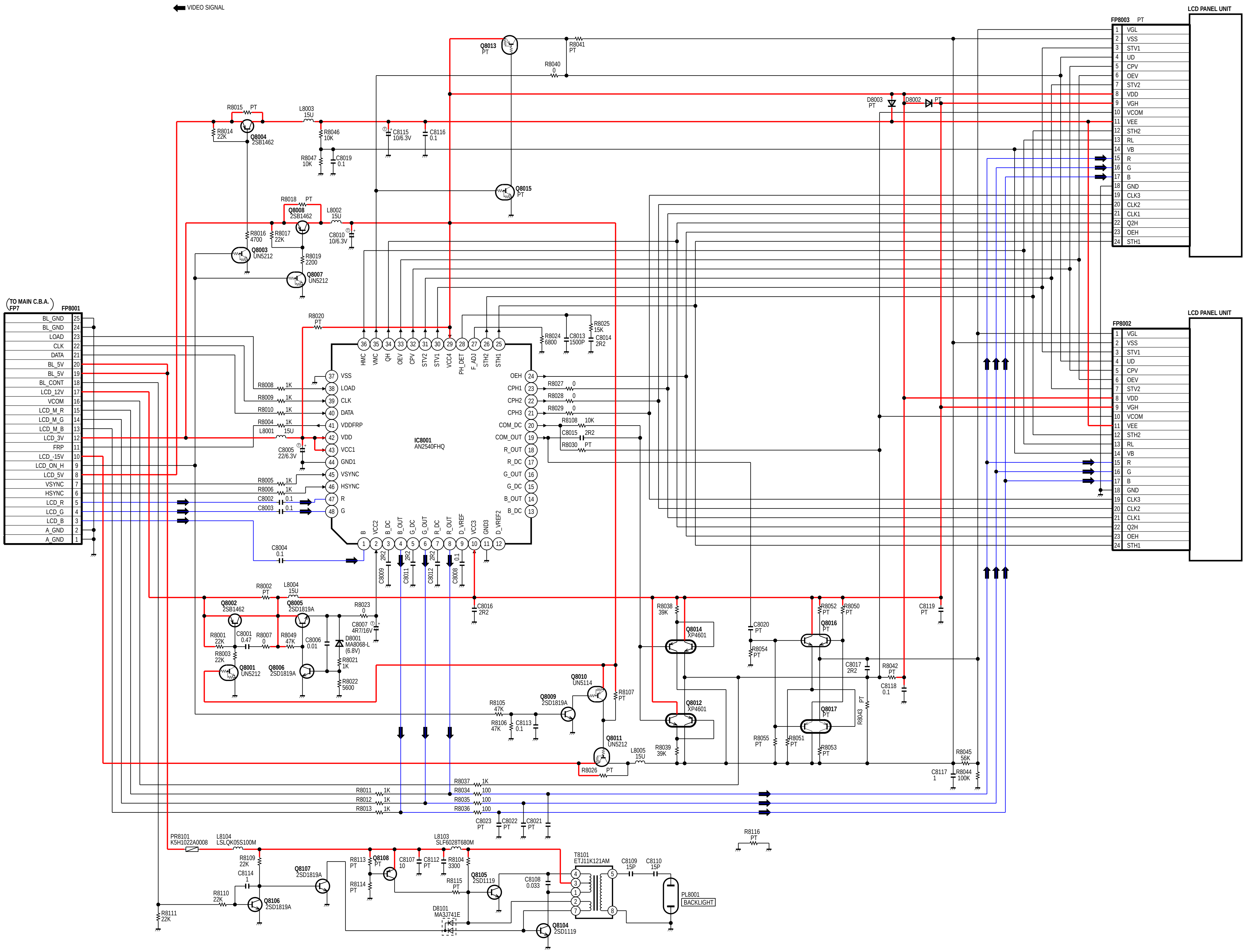
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



VIDEO SIGNAL
TO MAIN C.B.A. FP7
FP8001
BL_GND
BL_GND
LOAD
CLK
DATA
BL_5V
BL_5V
BL_CONT
LCD_12V
VCOM
LCD_M_R
LCD_M_G
LCD_M_B
LCD_3V
FRP
LCD_-15V
LCD_ON_H
LCD_5V
VSYNC
HSYNC
LCD_R
LCD_G
LCD_B
A_GND
A_GND
IC8001
AN2540FHQ
LCD PANEL UNIT
FP8003 PT
FP8002
VGL
VSS
STV1
UD
CPV
OEV
STV2
VDD
VGH
VCOM
VEE
STH2
RL
VB
R
G
B
GND
CLK3
CLK2
CLK1
Q2H
OEH
STH1
Q8013 PT
Q8015 PT
Q8004 2SB1462
Q8008 2SB1462
Q8003 UN5212
Q8007 UN5212
Q8002 2SB1462
Q8005 2SD1819A
Q8001 UN5212
Q8006 2SD1819A
Q8010 UN5114
Q8009 2SD1819A
Q8011 UN5212
Q8014 XP4601
Q8012 XP4601
Q8016 PT
Q8017 PT
Q8107 2SD1819A
Q8106 2SD1819A
Q8108 PT
Q8105 2SD1119
Q8104 2SD1119
D8001 MA8068-L (6.8V)
D8002 PT
D8003 PT
D8101 MA3J741E
T8101 ETJ11K121AM
PL8001 BACKLIGHT
PR8101 K5H1022A0008
L8104 LSLQK05S100M
L8103 SLF6028T680M

LINK TO VOLTAGE CHART

LSJB8188
LCD SCHEMATIC DIAGRAM
PV-DV102/PV-DV202

LCD SCHEMATIC DIAGRAM (C)

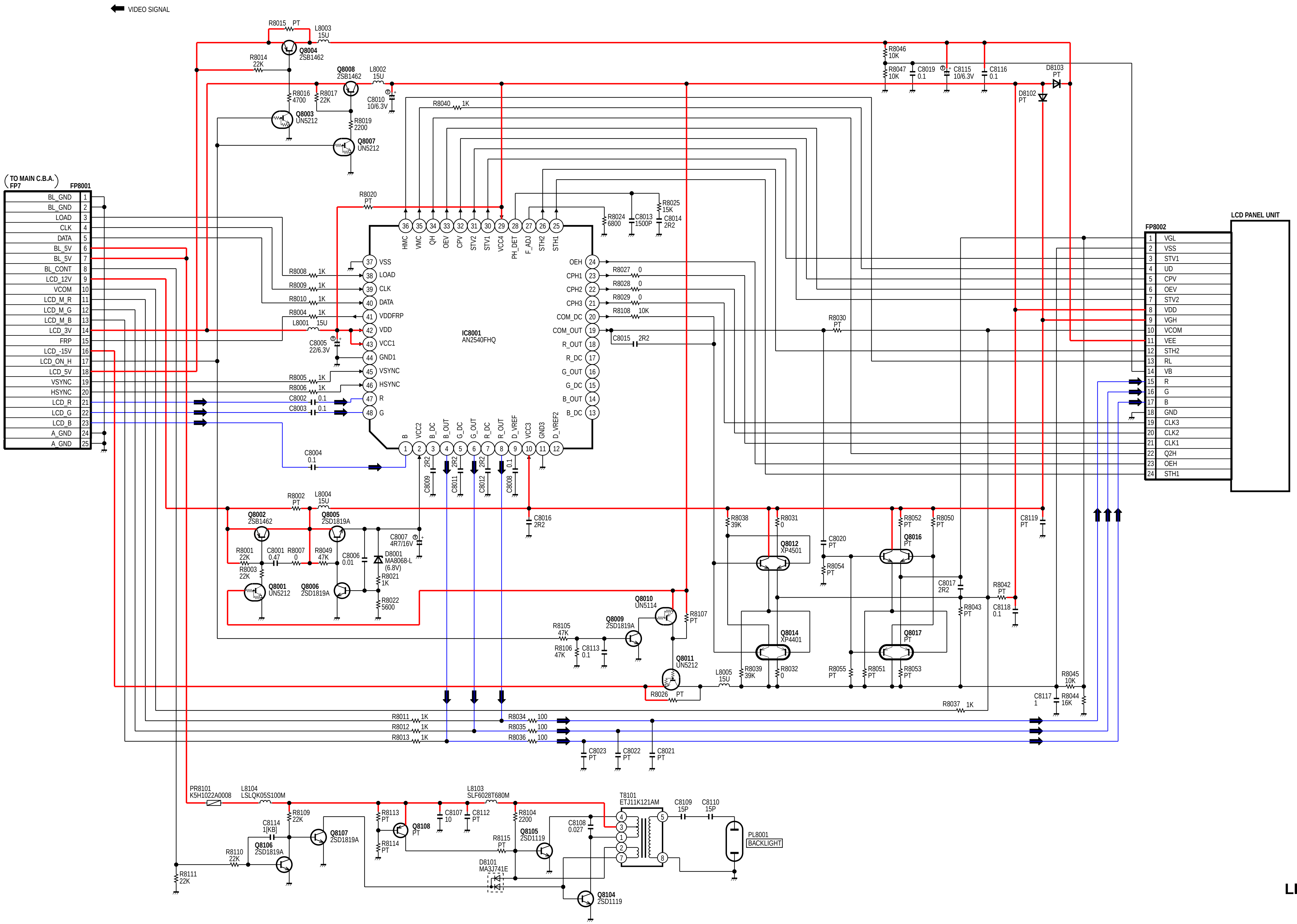
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts list.
Do not use the part number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT


VIDEO SIGNAL
R8015 PT
L8003 15U
Q8004 2SB1462
R8014 22K
Q8008 2SB1462
L8002 15U
R8016 4700
R8017 22K
C8010 10/6.3V
Q8003 UN5212
R8019 2200
Q8007 UN5212
R8040 1K
R8046 10K
R8047 10K
C8019 0.1
C8115 10/6.3V
C8116 0.1
D8103 PT
D8102 PT
TO MAIN C.B.A. FP7
FP8001
BL_GND 1
BL_GND 2
LOAD 3
CLK 4
DATA 5
BL_5V 6
BL_5V 7
BL_CONT 8
LCD_12V 9
VCOM 10
LCD_M_R 11
LCD_M_G 12
LCD_M_B 13
LCD_3V 14
FRP 15
LCD_-15V 16
LCD_ON_H 17
LCD_5V 18
VSYNC 19
HSYNC 20
LCD_R 21
LCD_G 22
LCD_B 23
A_GND 24
A_GND 25
R8020 PT
R8024 6800
C8013 1500P
R8025 15K
C8014 2R2
IC8001 AN2540FHQ
36 HMC
35 VMC
34 OH
33 OEV
32 CPV
31 STV2
30 STV1
29 VCC4
28 PH_DET
27 F_ADJ
26 STH2
25 STH1
37 VSS
38 LOAD
39 CLK
40 DATA
41 VDDFRP
42 VDD
43 VCC1
44 GND1
45 VSYNC
46 HSYNC
47 R
48 G
24 OEH
23 CPH1
22 CPH2
21 CPH3
20 COM_DC
19 COM_OUT
18 R_OUT
17 R_DC
16 G_OUT
15 G_DC
14 B_OUT
13 B_DC
1 B
2 VCC2
3 B_DC
4 B_OUT
5 G_DC
6 G_OUT
7 R_DC
8 R_OUT
9 D_VREF
10 VCC3
11 GND3
12 D_VREF2
R8008 1K
R8009 1K
R8010 1K
R8004 1K
L8001 15U
C8005 22/6.3V
R8005 1K
R8006 1K
C8002 0.1
C8003 0.1
C8004 0.1
R8027 0
R8028 0
R8029 0
R8108 10K
C8015 2R2
R8030 PT
C8009 2R2
C8011 2R2
C8012 2R2
C8008 0.1
C8016 2R2
LCD PANEL UNIT
FP8002
1 VGL
2 VSS
3 STV1
4 UD
5 CPV
6 OEV
7 STV2
8 VDD
9 VGH
10 VCOM
11 VEE
12 STH2
13 RL
14 VB
15 R
16 G
17 B
18 GND
19 CLK3
20 CLK2
21 CLK1
22 Q2H
23 OEH
24 STH1
R8002 PT
L8004 15U
Q8002 2SB1462
Q8005 2SD1819A
C8007 4R7/16V
R8001 22K
C8001 0.47
R8007 0
R8049 47K
C8006 0.01
D8001 MA8068-L (6.8V)
R8003 22K
R8021 1K
Q8001 UN5212
Q8006 2SD1819A
R8022 5600
R8038 39K
R8031 0
Q8012 XP4501
C8020 PT
R8054 PT
R8052 PT
R8050 PT
Q8016 PT
C8119 PT
C8017 2R2
R8042 PT
R8043 PT
C8118 0.1
Q8010 UN5114
R8107 PT
Q8009 2SD1819A
R8105 47K
R8106 47K
C8113 0.1
Q8011 UN5212
Q8014 XP4401
Q8017 PT
L8005 15U
R8039 39K
R8032 0
R8055 PT
R8051 PT
R8053 PT
R8045 10K
R8026 PT
R8037 1K
C8117 1
R8044 16K
R8011 1K
R8012 1K
R8013 1K
R8034 100
R8035 100
R8036 100
C8023 PT
C8022 PT
C8021 PT
PR8101 K5H1022A0008
L8104 LSLQK05S100M
L8103 SLF6028T680M
R8109 22K
C8114 1[KB]
Q8107 2SD1819A
Q8106 2SD1819A
R8110 22K
R8111 22K
R8113 PT
Q8108 PT
R8114 PT
C8107 10
C8112 PT
R8104 2200
R8115 PT
Q8105 2SD1119
D8101 MA3J741E
C8108 0.027
T8101 ETJ11K121AM
C8109 15P
C8110 15P
PL8001 BACKLIGHT
Q8104 2SD1119

LINK TO VOLTAGE CHART

LSJB8178
LCD SCHEMATIC DIAGRAM
PV-DV402

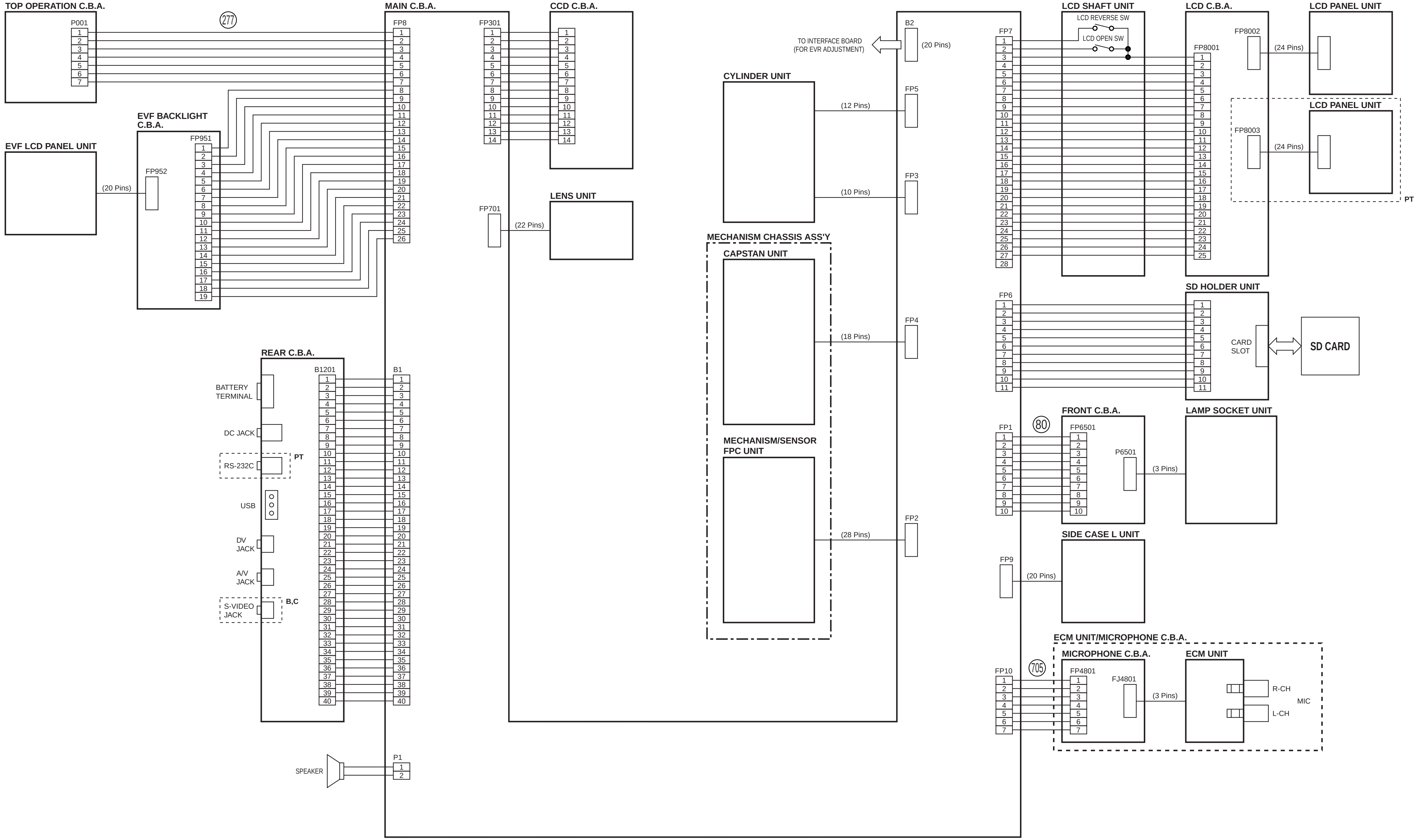
INTERCONNECTION SCHEMATIC DIAGRAM

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

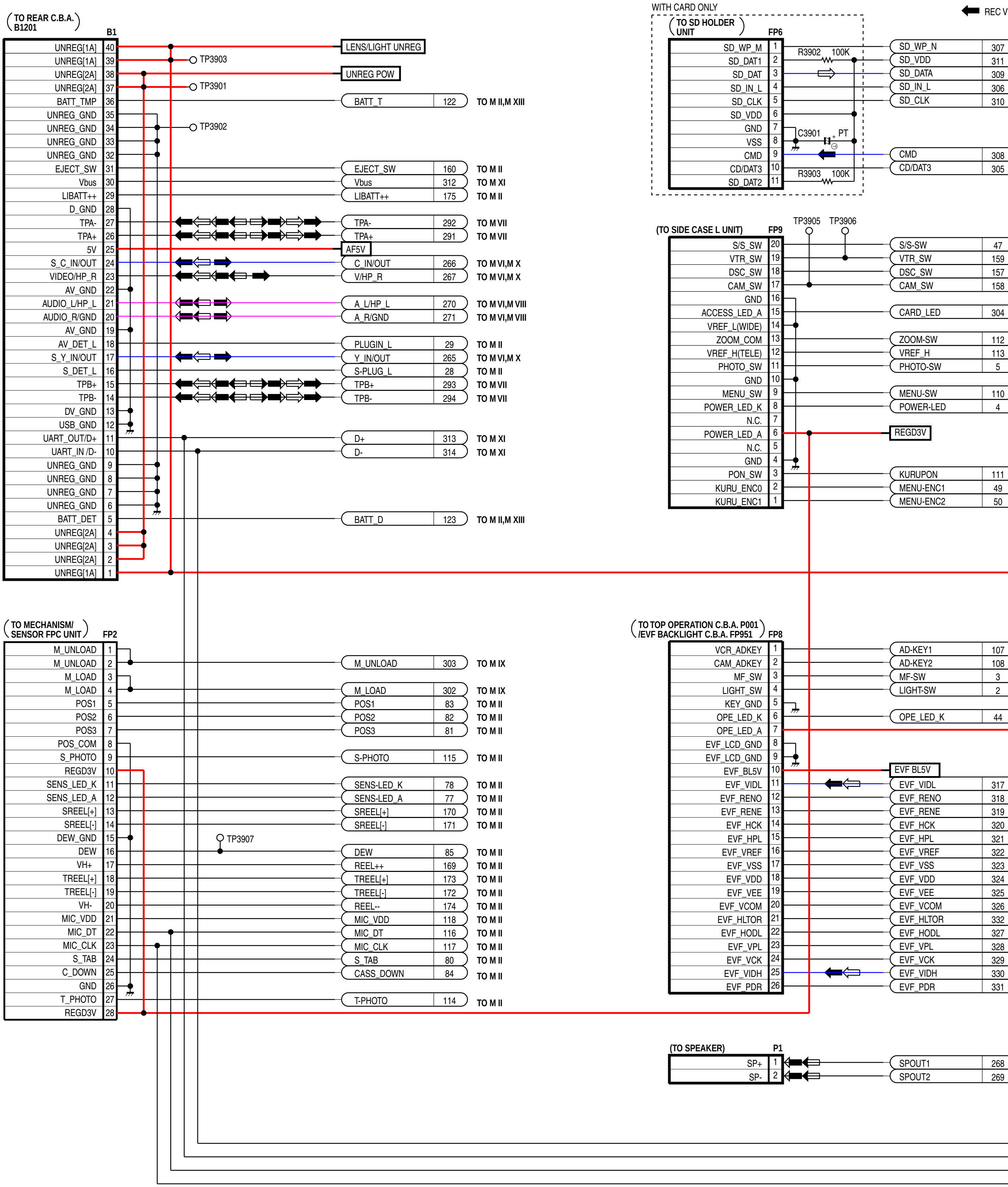


TOP OPERATION C.B.A.
P001
277
MAIN C.B.A.
FP8
FP301
CCD C.B.A.
EVF BACKLIGHT C.B.A.
FP951
EVF LCD PANEL UNIT
FP952
(20 Pins)
FP701
(22 Pins)
LENS UNIT
REAR C.B.A.
B1201
B1
BATTERY TERMINAL
DC JACK
RS-232C
PT
USB
DV JACK
A/V JACK
S-VIDEO JACK
B,C
SPEAKER
P1
B2
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
(20 Pins)
CYLINDER UNIT
FP5
(12 Pins)
FP3
(10 Pins)
MECHANISM CHASSIS ASS'Y
CAPSTAN UNIT
FP4
(18 Pins)
MECHANISM/SENSOR FPC UNIT
FP2
(28 Pins)
FP7
LCD SHAFT UNIT
LCD REVERSE SW
LCD OPEN SW
LCD C.B.A.
FP8001
FP8002
(24 Pins)
LCD PANEL UNIT
FP8003
(24 Pins)
LCD PANEL UNIT
PT
FP6
SD HOLDER UNIT
CARD SLOT
SD CARD
FP1
80
FRONT C.B.A.
FP6501
P6501
(3 Pins)
LAMP SOCKET UNIT
FP9
(20 Pins)
SIDE CASE L UNIT
ECM UNIT/MICROPHONE C.B.A.
MICROPHONE C.B.A.
FP10
705
FP4801
FJ4801
(3 Pins)
ECM UNIT
R-CH
L-CH
MIC

7.2. MAIN SCHEMATIC DIAGRAMS

MAIN I SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


WITH CARD ONLY
REC V
(TO REAR C.B.A. B1201)
B1
UNREG[1A] 40
UNREG[1A] 39
UNREG[2A] 38
UNREG[2A] 37
BATT_TMP 36
UNREG_GND 35
UNREG_GND 34
UNREG_GND 33
UNREG_GND 32
EJECT_SW 31
Vbus 30
LIBATT++ 29
D_GND 28
TPA- 27
TPA+ 26
5V 25
S_C_IN/OUT 24
VIDEO/HP_R 23
AV_GND 22
AUDIO_L/HP_L 21
AUDIO_R/GND 20
AV_GND 19
AV_DET_L 18
S_Y_IN/OUT 17
S_DET_L 16
TPB+ 15
TPB- 14
DV_GND 13
USB_GND 12
UART_OUT/D+ 11
UART_IN /D- 10
UNREG_GND 9
UNREG_GND 8
UNREG_GND 7
UNREG_GND 6
BATT_DET 5
UNREG[2A] 4
UNREG[2A] 3
UNREG[2A] 2
UNREG[1A] 1
TP3903
TP3901
TP3902
LENS/LIGHT UNREG
UNREG POW
BATT_T 122 TO M II,M XIII
EJECT_SW 160 TO M II
Vbus 312 TO M XI
LIBATT++ 175 TO M II
TPA- 292 TO M VII
TPA+ 291 TO M VII
AF5V
C_IN/OUT 266 TO M VI,M X
V/HP_R 267 TO M VI,M X
A_L/HP_L 270 TO M VI,M VIII
A_R/GND 271 TO M VI,M VIII
PLUGIN_L 29 TO M II
Y_IN/OUT 265 TO M VI,M X
S-PLUG_L 28 TO M II
TPB+ 293 TO M VII
TPB- 294 TO M VII
D+ 313 TO M XI
D- 314 TO M XI
BATT_D 123 TO M II,M XIII
(TO SD HOLDER UNIT)
FP6
SD_WP_M 1
SD_DAT1 2
SD_DAT 3
SD_IN_L 4
SD_CLK 5
SD_VDD 6
GND 7
VSS 8
CMD 9
CD/DAT3 10
SD_DAT2 11
R3902 100K
C3901 PT
R3903 100K
SD_WP_N 307
SD_VDD 311
SD_DATA 309
SD_IN_L 306
SD_CLK 310
CMD 308
CD/DAT3 305
(TO SIDE CASE L UNIT)
FP9
TP3905
TP3906
S/S_SW 20
VTR_SW 19
DSC_SW 18
CAM_SW 17
GND 16
ACCESS_LED_A 15
VREF_L(WIDE) 14
ZOOM_COM 13
VREF_H(TELE) 12
PHOTO_SW 11
GND 10
MENU_SW 9
POWER_LED_K 8
N.C. 7
POWER_LED_A 6
N.C. 5
GND 4
PON_SW 3
KURU_ENC0 2
KURU_ENC1 1
S/S-SW 47
VTR_SW 159
DSC_SW 157
CAM_SW 158
CARD_LED 304
ZOOM-SW 112
VREF_H 113
PHOTO-SW 5
MENU-SW 110
POWER-LED 4
REGD3V
KURUPON 111
MENU-ENC1 49
MENU-ENC2 50
(TO MECHANISM/ SENSOR FPC UNIT)
FP2
M_UNLOAD 1
M_UNLOAD 2
M_LOAD 3
M_LOAD 4
POS1 5
POS2 6
POS3 7
POS_COM 8
S_PHOTO 9
REGD3V 10
SENS_LED_K 11
SENS_LED_A 12
SREEL[+] 13
SREEL[-] 14
DEW_GND 15
DEW 16
VH+ 17
TREEL[+] 18
TREEL[-] 19
VH- 20
MIC_VDD 21
MIC_DT 22
MIC_CLK 23
S_TAB 24
C_DOWN 25
GND 26
T_PHOTO 27
REGD3V 28
TP3907
M_UNLOAD 303 TO M IX
M_LOAD 302 TO M IX
POS1 83 TO M II
POS2 82 TO M II
POS3 81 TO M II
S-PHOTO 115 TO M II
SENS-LED_K 78 TO M II
SENS-LED_A 77 TO M II
SREEL[+] 170 TO M II
SREEL[-] 171 TO M II
DEW 85 TO M II
REEL++ 169 TO M II
TREEL[+] 173 TO M II
TREEL[-] 172 TO M II
REEL-- 174 TO M II
MIC_VDD 118 TO M II
MIC_DT 116 TO M II
MIC_CLK 117 TO M II
S_TAB 80 TO M II
CASS_DOWN 84 TO M II
T-PHOTO 114 TO M II
(TO TOP OPERATION C.B.A. P001 /EVF BACKLIGHT C.B.A. FP951)
FP8
VCR_ADKEY 1
CAM_ADKEY 2
MF_SW 3
LIGHT_SW 4
KEY_GND 5
OPE_LED_K 6
OPE_LED_A 7
EVF_LCD_GND 8
EVF_LCD_GND 9
EVF_BL5V 10
EVF_VIDL 11
EVF_RENO 12
EVF_RENE 13
EVF_HCK 14
EVF_HPL 15
EVF_VREF 16
EVF_VSS 17
EVF_VDD 18
EVF_VEE 19
EVF_VCOM 20
EVF_HLTOR 21
EVF_HODL 22
EVF_VPL 23
EVF_VCK 24
EVF_VIDH 25
EVF_PDR 26
AD-KEY1 107
AD-KEY2 108
MF-SW 3
LIGHT-SW 2
OPE_LED_K 44
EVF BL5V
EVF_VIDL 317
EVF_RENO 318
EVF_RENE 319
EVF_HCK 320
EVF_HPL 321
EVF_VREF 322
EVF_VSS 323
EVF_VDD 324
EVF_VEE 325
EVF_VCOM 326
EVF_HLTOR 332
EVF_HODL 327
EVF_VPL 328
EVF_VCK 329
EVF_VIDH 330
EVF_PDR 331
(TO SPEAKER)
P1
SP+ 1
SP- 2
SPOUT1 268
SPOUT2 269

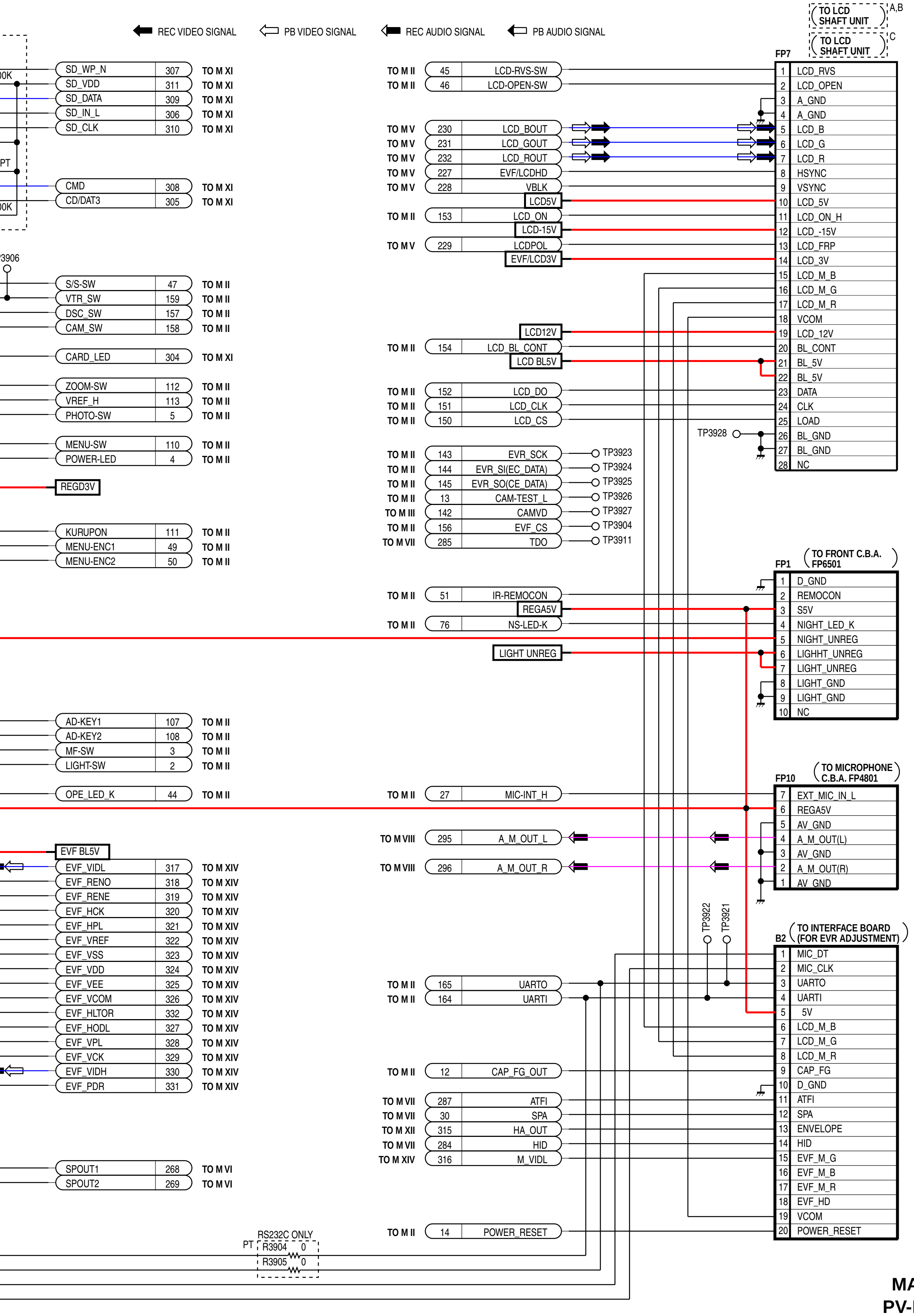
rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

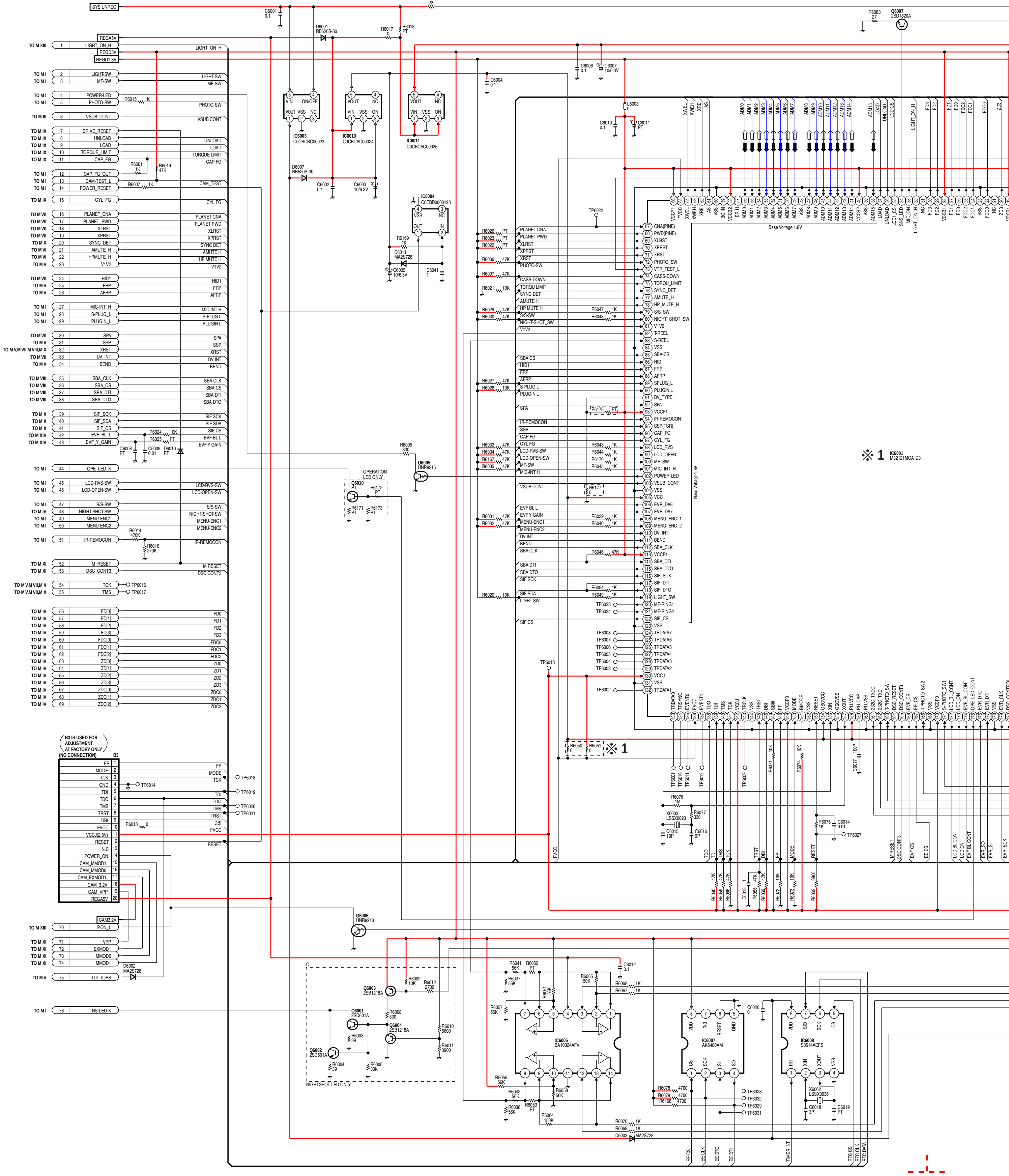


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
00K
SD_WP_N 307 TO M XI
SD_VDD 311 TO M XI
SD_DATA 309 TO M XI
SD_IN_L 306 TO M XI
SD_CLK 310 TO M XI
PT
CMD 308 TO M XI
CD/DAT3 305 TO M XI
00K
3906
S/S-SW 47 TO M II
VTR_SW 159 TO M II
DSC_SW 157 TO M II
CAM_SW 158 TO M II
CARD_LED 304 TO M XI
ZOOM-SW 112 TO M II
VREF_H 113 TO M II
PHOTO-SW 5 TO M II
MENU-SW 110 TO M II
POWER-LED 4 TO M II
REGD3V
KURUPON 111 TO M II
MENU-ENC1 49 TO M II
MENU-ENC2 50 TO M II
AD-KEY1 107 TO M II
AD-KEY2 108 TO M II
MF-SW 3 TO M II
LIGHT-SW 2 TO M II
OPE_LED_K 44 TO M II
EVF BL5V
EVF_VIDL 317 TO M XIV
EVF_RENO 318 TO M XIV
EVF_RENE 319 TO M XIV
EVF_HCK 320 TO M XIV
EVF_HPL 321 TO M XIV
EVF_VREF 322 TO M XIV
EVF_VSS 323 TO M XIV
EVF_VDD 324 TO M XIV
EVF_VEE 325 TO M XIV
EVF_VCOM 326 TO M XIV
EVF_HLTOR 332 TO M XIV
EVF_HODL 327 TO M XIV
EVF_VPL 328 TO M XIV
EVF_VCK 329 TO M XIV
EVF_VIDH 330 TO M XIV
EVF_PDR 331 TO M XIV
SPOUT1 268 TO M VI
SPOUT2 269 TO M VI
RS232C ONLY
PT R3904 0
R3905 0
TO M II 45 LCD-RVS-SW
TO M II 46 LCD-OPEN-SW
TO M V 230 LCD_BOUT
TO M V 231 LCD_GOUT
TO M V 232 LCD_ROUT
TO M V 227 EVF/LCDHD
TO M V 228 VBLK
LCD5V
TO M II 153 LCD_ON
LCD-15V
TO M V 229 LCDPOL
EVF/LCD3V
LCD12V
TO M II 154 LCD_BL_CONT
LCD BL5V
TO M II 152 LCD_DO
TO M II 151 LCD_CLK
TO M II 150 LCD_CS
TO M II 143 EVR_SCK TP3923
TO M II 144 EVR_SI(EC_DATA) TP3924
TO M II 145 EVR_SO(CE_DATA) TP3925
TO M II 13 CAM-TEST_L TP3926
TO M III 142 CAMVD TP3927
TO M II 156 EVF_CS TP3904
TO M VII 285 TDO TP3911
TO M II 51 IR-REMOCON
REGA5V
TO M II 76 NS-LED-K
LIGHT UNREG
TO M II 27 MIC-INT_H
TO M VIII 295 A_M_OUT_L
TO M VIII 296 A_M_OUT_R
TP3922
TP3921
TO M II 165 UARTO
TO M II 164 UARTI
TO M II 12 CAP_FG_OUT
TO M VII 287 ATFI
TO M VII 30 SPA
TO M XII 315 HA_OUT
TO M VII 284 HID
TO M XIV 316 M_VIDL
TO M II 14 POWER_RESET
TP3928
TO LCD SHAFT UNIT A,B
TO LCD SHAFT UNIT C
FP7
1 LCD_RVS
2 LCD_OPEN
3 A_GND
4 A_GND
5 LCD_B
6 LCD_G
7 LCD_R
8 HSYNC
9 VSYNC
10 LCD_5V
11 LCD_ON_H
12 LCD_-15V
13 LCD_FRP
14 LCD_3V
15 LCD_M_B
16 LCD_M_G
17 LCD_M_R
18 VCOM
19 LCD_12V
20 BL_CONT
21 BL_5V
22 BL_5V
23 DATA
24 CLK
25 LOAD
26 BL_GND
27 BL_GND
28 NC
FP1
TO FRONT C.B.A. FP6501
1 D_GND
2 REMOCON
3 S5V
4 NIGHT_LED_K
5 NIGHT_UNREG
6 LIGHHT_UNREG
7 LIGHT_UNREG
8 LIGHT_GND
9 LIGHT_GND
10 NC
FP10
TO MICROPHONE C.B.A. FP4801
7 EXT_MIC_IN_L
6 REGA5V
5 AV_GND
4 A_M_OUT(L)
3 AV_GND
2 A_M_OUT(R)
1 AV_GND
B2
TO INTERFACE BOARD (FOR EVR ADJUSTMENT)
1 MIC_DT
2 MIC_CLK
3 UARTO
4 UARTI
5 5V
6 LCD_M_B
7 LCD_M_G
8 LCD_M_R
9 CAP_FG
10 D_GND
11 ATFI
12 SPA
13 ENVELOPE
14 HID
15 EVF_M_G
16 EVF_M_B
17 EVF_M_R
18 EVF_HD
19 VCOM
20 POWER_RESET

LSJB8165
MAIN I SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN II SCHEMATIC DIAGRAM

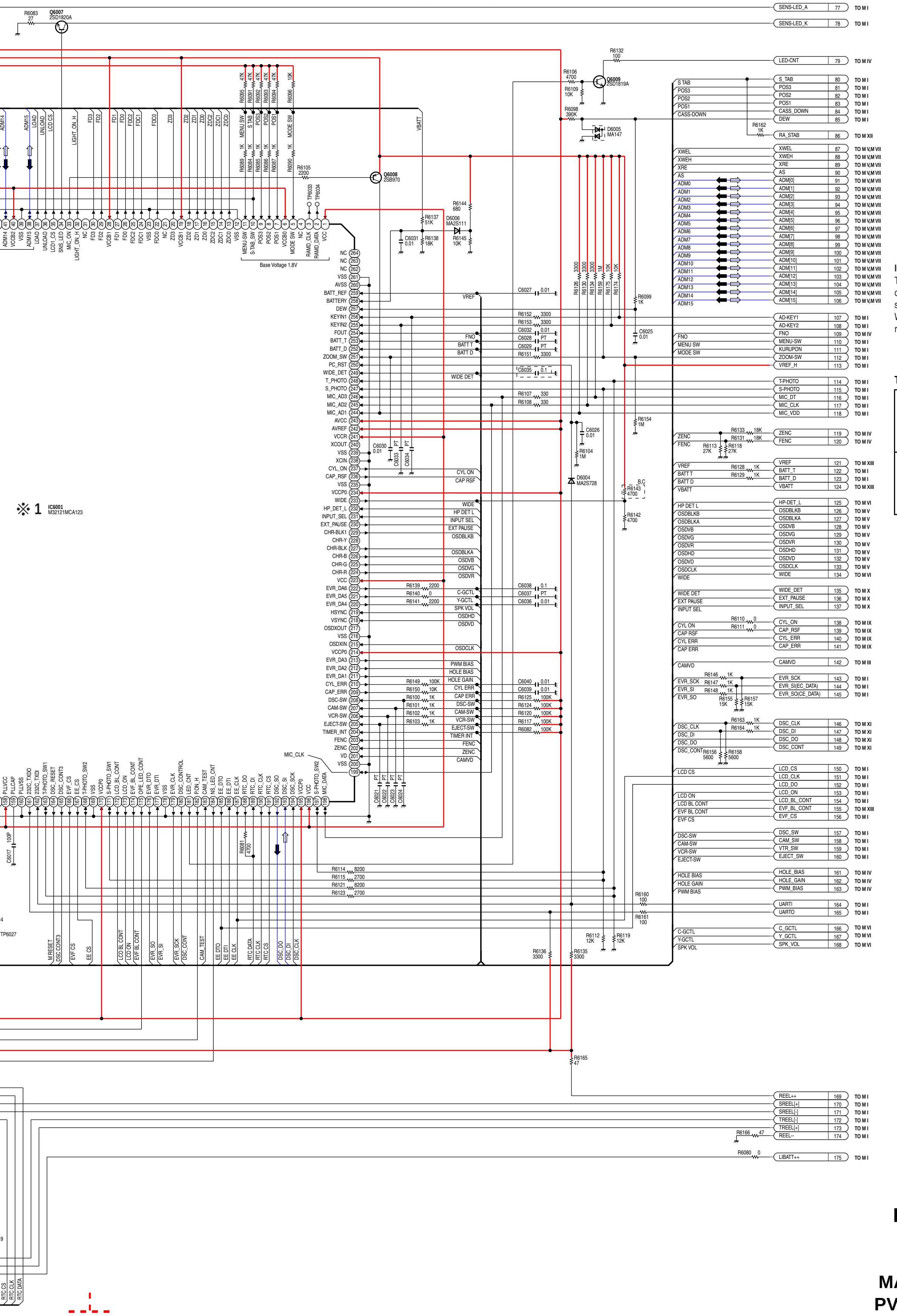
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


SYS UNREG
REGA5V
REGD3V
REGD1.8V
TO M XIII 1 LIGHT_ON_H
TO M I 2 LIGHT-SW
TO M I 3 MF-SW
TO M I 4 POWER-LED
TO M I 5 PHOTO-SW
TO M III 6 VSUB_CONT
TO M IX 7 DRIVE_RESET
TO M IX 8 UNLOAD
TO M IX 9 LOAD
TO M IX 10 TORQUE_LIMIT
TO M IX 11 CAP_FG
TO M I 12 CAP_FG_OUT
TO M I 13 CAM-TEST_L
TO M I 14 POWER_RESET
TO M IX 15 CYL_FG
TO M VII 16 PLANET_CNA
TO M VII 17 PLANET_PWD
TO M VII 18 XLRST
TO M VII 19 XPRST
TO M X 20 SYNC_DET
TO M VI 21 AMUTE_H
TO M VI 22 HPMUTE_H
TO M V 23 V1V2
TO M VII 24 HID1
TO M V 25 FRP
TO M V 26 AFRP
TO M I 27 MIC-INT_H
TO M I 28 S-PLUG_L
TO M I 29 PLUGIN_L
TO M VII 30 SPA
TO M V 31 SSP
TO M V,M VII,M VIII,M X 32 XRST
TO M VII 33 DV_INT
TO M V 34 BEND
TO M VIII 35 SBA_CLK
TO M VIII 36 SBA_CS
TO M VIII 37 SBA_DTI
TO M VIII 38 SBA_DTO
TO M X 39 SIF_SCK
TO M X 40 SIF_SDA
TO M X 41 SIF_CS
TO M XIV 42 EVF_BL_L
TO M XIV 43 EVF_Y_GAIN
TO M I 44 OPE_LED_K
TO M I 45 LCD-RVS-SW
TO M I 46 LCD-OPEN-SW
TO M I 47 S/S-SW
TO M IV 48 NIGHT-SHOT-SW
TO M I 49 MENU-ENC1
TO M I 50 MENU-ENC2
TO M I 51 IR-REMOCON
TO M XI 52 M_RESET
TO M XI 53 DSC_CONT3
TO M V,M VII,M X 54 TCK
TO M V,M VII,M X 55 TMS
TO M IV 56–69 FD[0]–FD[3], FDC[0]–FDC[2], ZD[0]–ZD[3], ZDC[0]–ZDC[2]
B3 IS USED FOR ADJUSTMENT AT FACTORY ONLY (NO CONNECTION)
B3
FP, MODE, TCK, GND, TDI, TDO, TMS, TRST, DBI, FVCC, VCCJ(2.8V), RESET, N.C, POWER_ON, CAM_MMOD1, CAM_MMOD0, CAM_EXMOD1, CAM_3.2V, CAM_VPP, REGA5V
CAM3.2V
TO M XIII 70 P.ON_L
TO M XI 71 VPP
TO M XI 72 EXMOD1
TO M XI 73 MMOD0
TO M XI 74 MMOD1
TO M V 75 TDI_TOPS
TO M I 76 NS-LED-K
IC6003 C0CBCBC00023
IC6010 C0CBCAC00024
IC6011 C0CBCAC00026
IC6004 C0EBD0000123
D6001 RB520S-30
D6007 RB520S-30
D6011 MA2S728
D6002 MA2S728
D6003 MA2S728
Q6005 UNR9215
Q6006 UNR9213
Q6010 PT
OPERATION LED ONLY
Q6003 2SB1218A
Q6001 2SD601A
Q6004 2SB1218A
Q6002 2SD601A
NIGHTSHOT LED ONLY
Q6007 2SD1820A
IC6005 BA10324AFV
IC6007 AK6480AM
IC6008 S3514AEFS
X6002 LSSX0036
X6003 LSSX0023
※1 IC6001 M32121MCA123
※1
Base Voltage 1.8V

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.


REC VIDEO SIGNAL
PB VIDEO SIGNAL
Q6007 2SD1820A
Q6008 2SB970
Q6009 2SD1819A
D6005 MA147
D6006 MA2S111
D6004 MA2S728
Base Voltage 1.8V
※ 1 IC6001 M32121MCA123
SENS-LED_A 77 TO M I
SENS-LED_K 78 TO M I
LED-CNT 79 TO M IV
S_TAB 80 TO M I
POS3 81 TO M I
POS2 82 TO M I
POS1 83 TO M I
CASS_DOWN 84 TO M I
DEW 85 TO M I
RA_STAB 86 TO M XII
XWEL 87
XWEH 88
XRE 89
AS 90
ADM[0] 91 … ADM[15] 106 TO M V,M VII
AD-KEY1 107
AD-KEY2 108
FNO 109
MENU-SW 110
KURPON 111
ZOOM-SW 112
VREF_H 113
T-PHOTO 114
S-PHOTO 115
MIC_DT 116
MIC_CLK 117
MIC_VDD 118
ZENC 119
FENC 120
VREF 121
BATT_T 122
BATT_D 123
VBATT 124
HP-DET_L 125
OSDBLKB 126
OSDBLKA 127
OSDVB 128
OSDVG 129
OSDVR 130
OSDHD 131
OSDVD 132
OSDCLK 133
WIDE 134
WIDE_DET 135
EXT_PAUSE 136
INPUT_SEL 137
CYL_ON 138
CAP_RSF 139
CYL_ERR 140
CAP_ERR 141
CAMVD 142
EVR_SCK 143
EVR_SI(EC_DATA) 144
EVR_SO(CE_DATA) 145
DSC_CLK 146
DSC_DI 147
DSC_DO 148
DSC_CONT 149
LCD_CS 150
LCD_CLK 151
LCD_DO 152
LCD_ON 153
LCD_BL_CONT 154
EVF_BL_CONT 155
EVF_CS 156
DSC_SW 157
CAM_SW 158
VTR_SW 159
EJECT_SW 160
HOLE_BIAS 161
HOLE_GAIN 162
PWM_BIAS 163
UARTI 164
UARTO 165
C_GCTL 166
Y_GCTL 167
SPK_VOL 168
REEL++ 169
SREEL[+] 170
SREEL[-] 171
TREEL[-] 172
TREEL[+] 173
REEL-- 174
LIBATT++ 175

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

※ 1

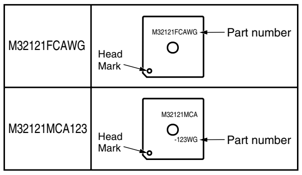
IC6001 REPLACEMENT NOTE

Two types of IC6001 (M32121FCAWG or M32121MCA123) are used on a running change basis, however IC6001 (M32121MCA123) is supplied only as a replacement part.

When replacing IC6001, as in the following cases, it is necessary to replace the resistor at the same time or IC6001 may have a short life.

- When replacing IC6001 (M32121FCAWG) with IC6001 (M32121MCA123), be sure to move resistor (Ref. No. R6051) to the R6050 location.

Types of IC6001



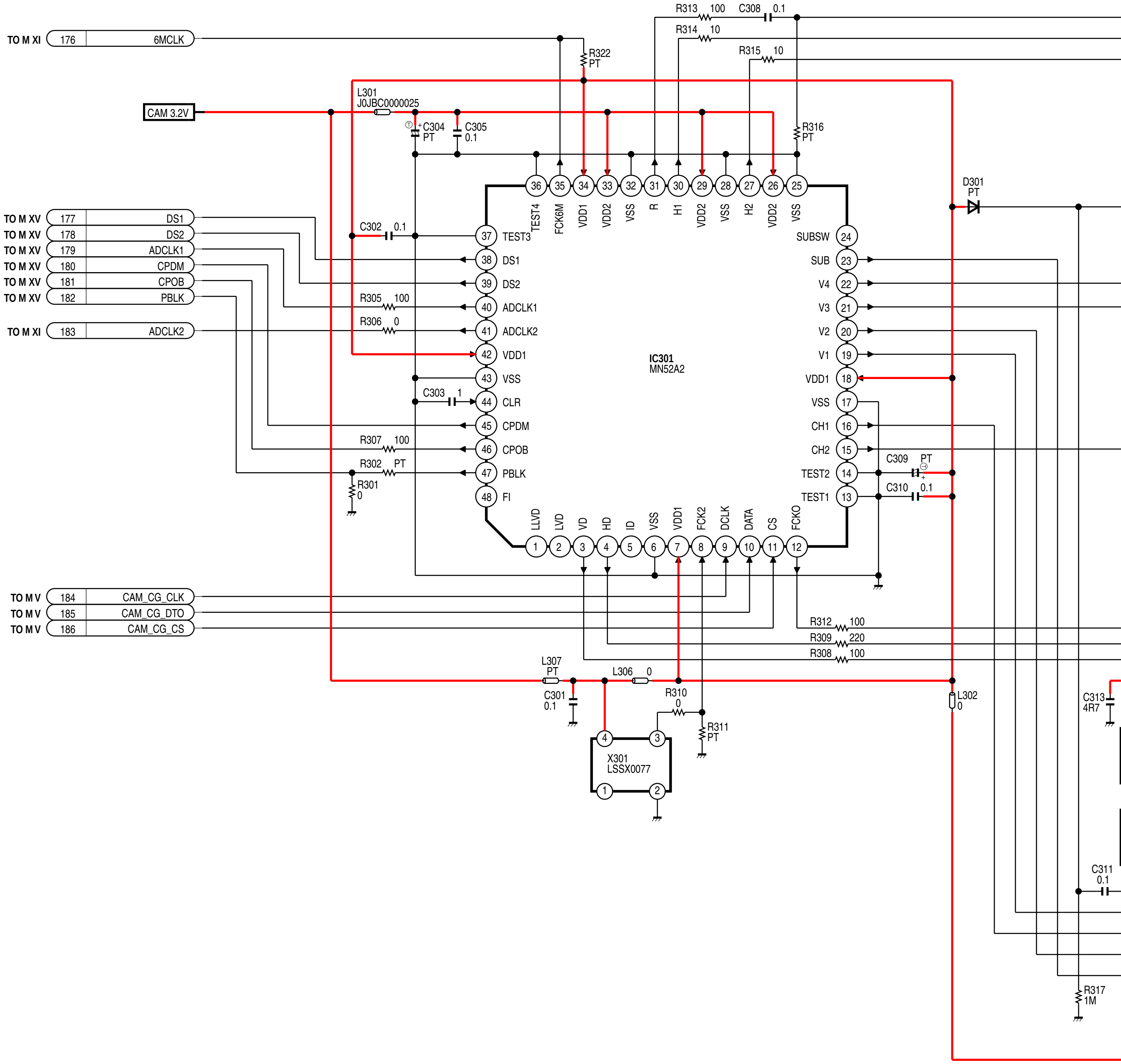
M32121FCAWG	M32121FCAWG Head Mark Part number
M32121MCA123	M32121MCA -123WG Head Mark Part number

LINK TO VOLTAGE CHART

LSJB8165
MAIN II SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN III SCHEMATIC DIAGRAM

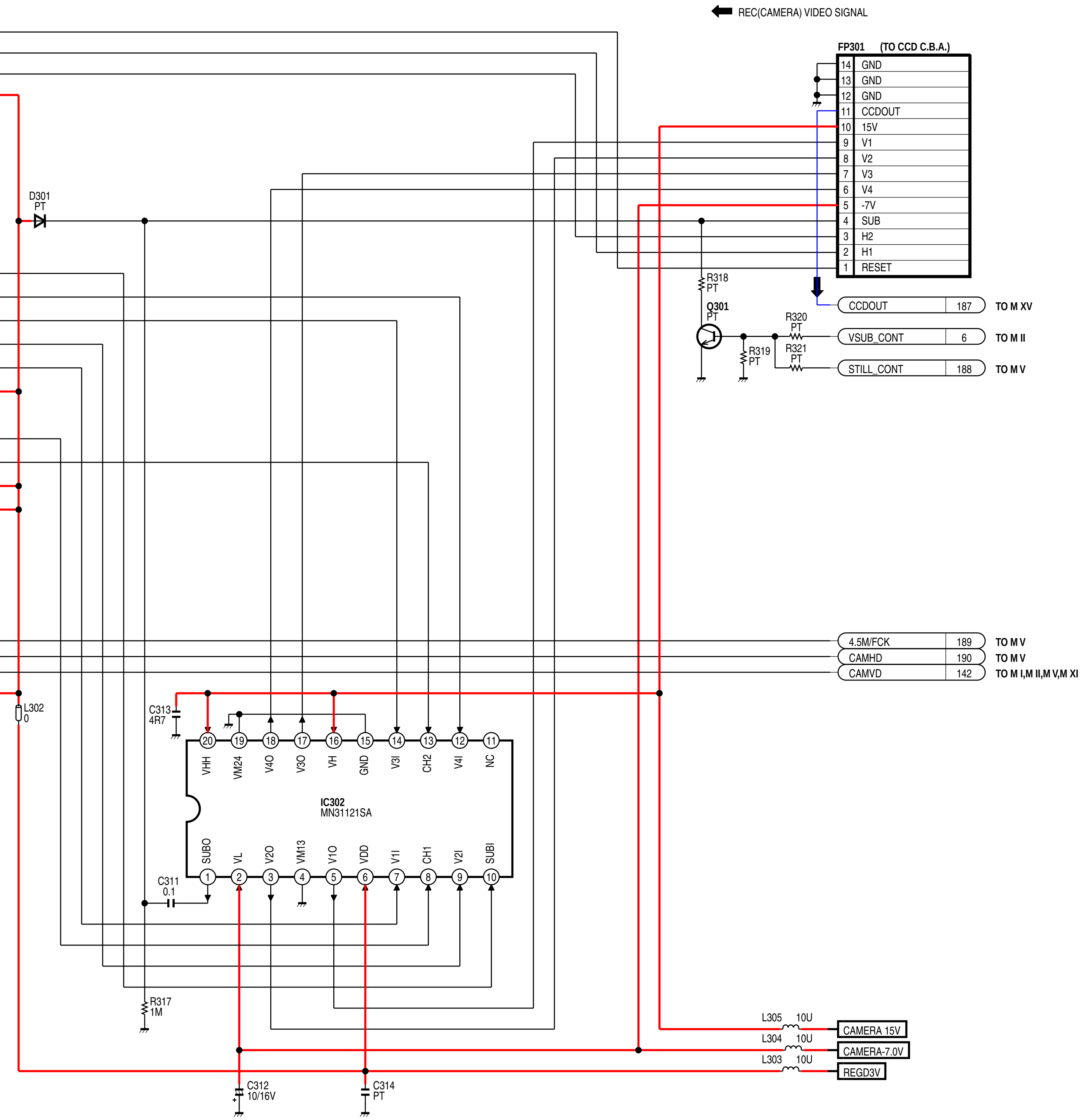
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


TO M XI 176 6MCLK
CAM 3.2V
TO M XV 177 DS1
TO M XV 178 DS2
TO M XV 179 ADCLK1
TO M XV 180 CPDM
TO M XV 181 CPOB
TO M XV 182 PBLK
TO M XI 183 ADCLK2
TO M V 184 CAM_CG_CLK
TO M V 185 CAM_CG_DTO
TO M V 186 CAM_CG_CS
R313 100
C308 0.1
R314 10
R315 10
R322 PT
L301 J0JBC0000025
C304 PT
C305 0.1
R316 PT
D301 PT
C302 0.1
R305 100
R306 0
C303 1
R307 100
R302 PT
R301 0
IC301 MN52A2
36 TEST4
35 FCK6M
34 VDD1
33 VDD2
32 VSS
31 R
30 H1
29 VDD2
28 VSS
27 H2
26 VDD2
25 VSS
37 TEST3
38 DS1
39 DS2
40 ADCLK1
41 ADCLK2
42 VDD1
43 VSS
44 CLR
45 CPDM
46 CPOB
47 PBLK
48 FI
24 SUBSW
23 SUB
22 V4
21 V3
20 V2
19 V1
18 VDD1
17 VSS
16 CH1
15 CH2
14 TEST2
13 TEST1
1 LLVD
2 LVD
3 VD
4 HD
5 ID
6 VSS
7 VDD1
8 FCK2
9 DCLK
10 DATA
11 CS
12 FCKO
C309 PT
C310 0.1
R312 100
R309 220
R308 100
L307 PT
C301 0.1
L306 0
R310 0
R311 PT
X301 LSSX0077
L302 0
C313 4R7
C311 0.1
R317 1M

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.



REC(CAMERA) VIDEO SIGNAL
FP301 (TO CCD C.B.A.)
14 GND
13 GND
12 GND
11 CCDOUT
10 15V
9 V1
8 V2
7 V3
6 V4
5 -7V
4 SUB
3 H2
2 H1
1 RESET
D301
PT
R318
PT
Q301
PT
R320
PT
R319
PT
R321
PT
CCDOUT 187 TO M XV
VSUB_CONT 6 TO M II
STILL_CONT 188 TO M V
4.5M/FCK 189 TO M V
CAMHD 190 TO M V
CAMVD 142 TO M I,M II,M V,M XI
L302
0
C313
4R7
IC302
MN31121SA
20 VHH
19 VM24
18 V4O
17 V3O
16 VH
15 GND
14 V3I
13 CH2
12 V4I
11 NC
1 SUBO
2 VL
3 V2O
4 VM13
5 V1O
6 VDD
7 V1I
8 CH1
9 V2I
10 SUBI
C311
0.1
R317
1M
L305 10U
L304 10U
L303 10U
CAMERA 15V
CAMERA-7.0V
REGD3V
C312
10/16V
C314
PT

LINK TO VOLTAGE CHART

LSJB8165
MAIN III SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN IV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
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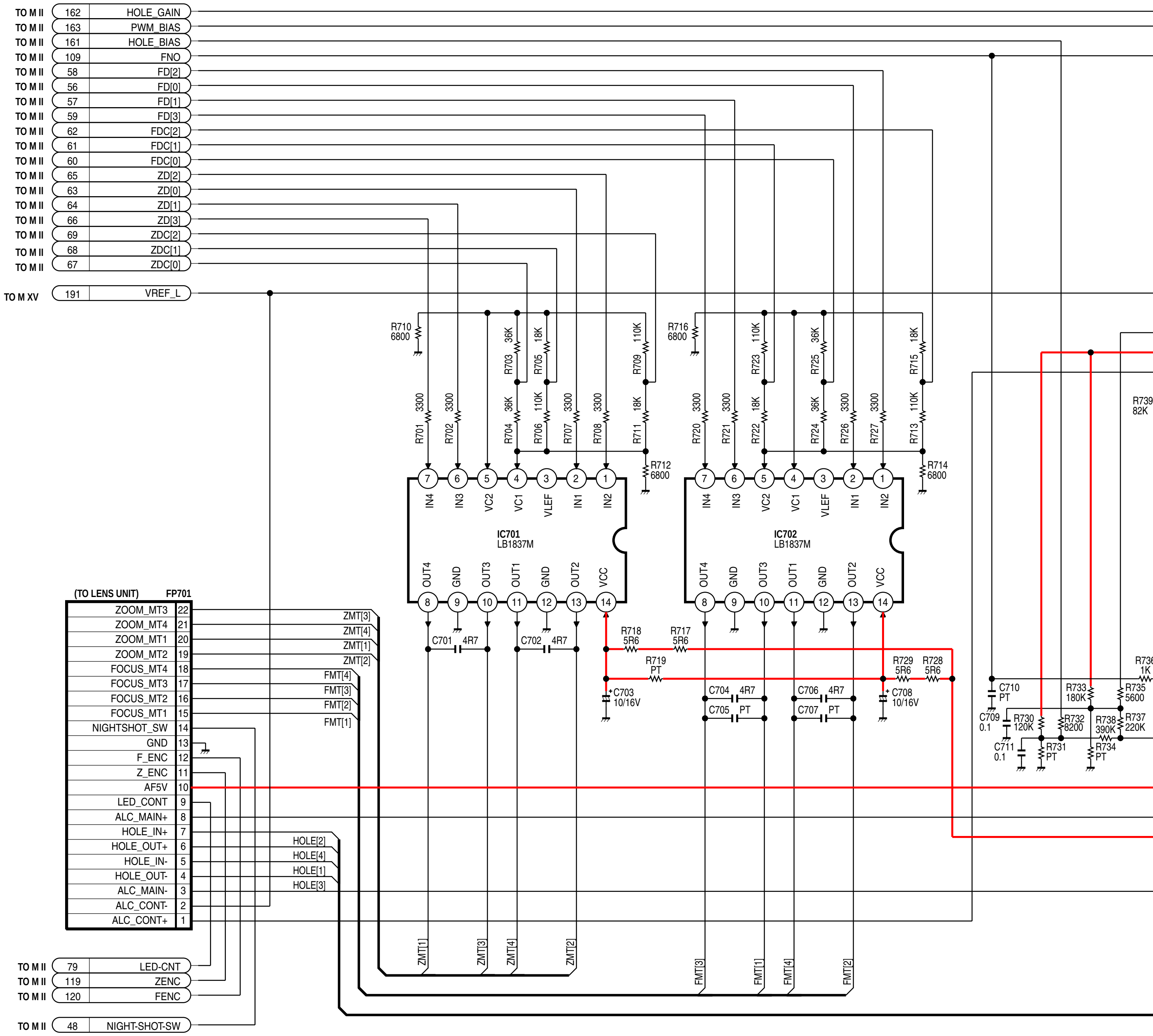
Do not use the part number on this diagram.

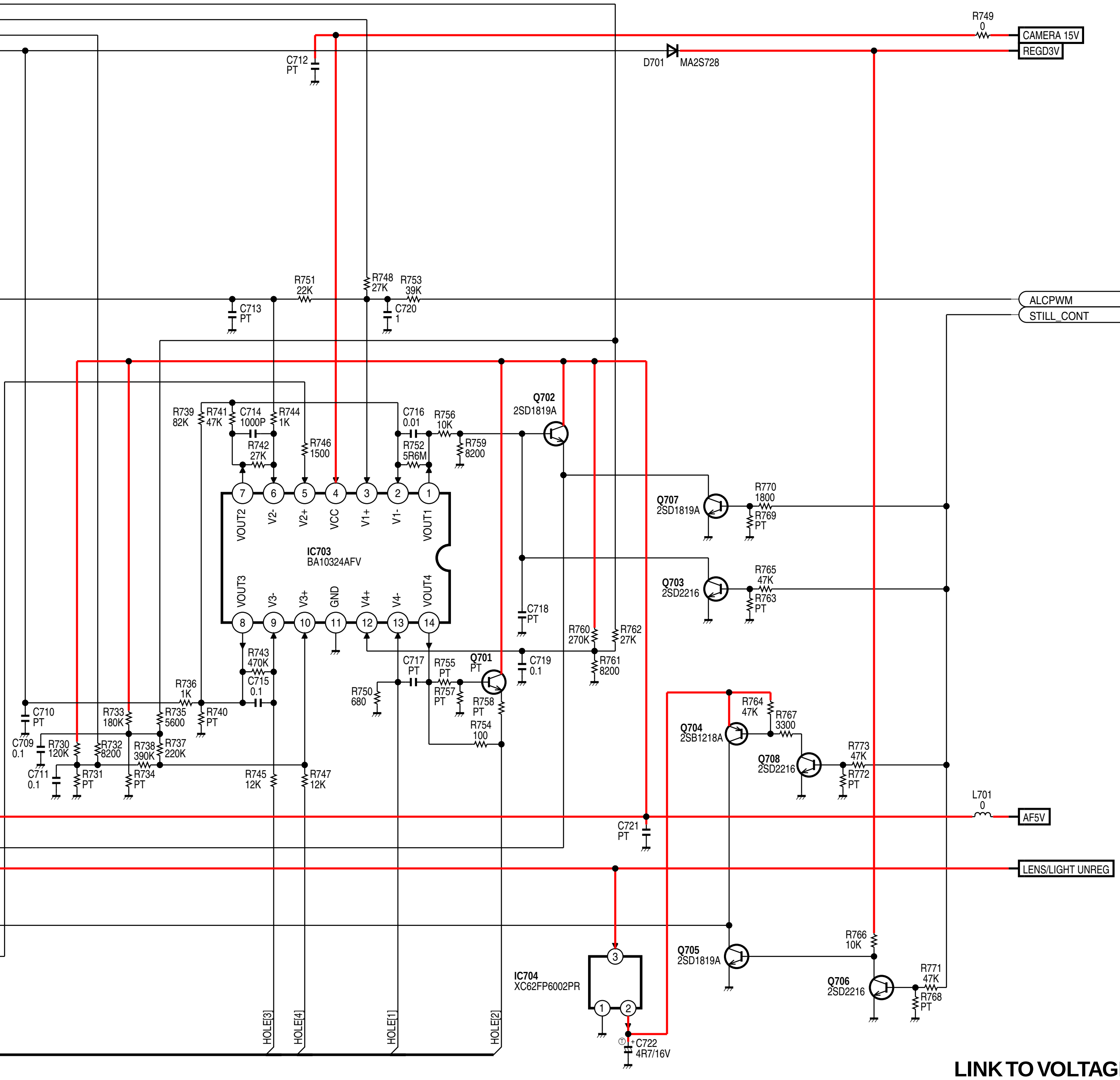


TO M II 162 HOLE_GAIN
TO M II 163 PWM_BIAS
TO M II 161 HOLE_BIAS
TO M II 109 FNO
TO M II 58 FD[2]
TO M II 56 FD[0]
TO M II 57 FD[1]
TO M II 59 FD[3]
TO M II 62 FDC[2]
TO M II 61 FDC[1]
TO M II 60 FDC[0]
TO M II 65 ZD[2]
TO M II 63 ZD[0]
TO M II 64 ZD[1]
TO M II 66 ZD[3]
TO M II 69 ZDC[2]
TO M II 68 ZDC[1]
TO M II 67 ZDC[0]
TO M XV 191 VREF_L
R710 6800
R703 36K
R705 18K
R709 110K
R701 3300
R702 3300
R704 36K
R706 110K
R707 3300
R708 3300
R711 18K
R712 6800
R716 6800
R723 110K
R725 36K
R715 18K
R720 3300
R721 3300
R722 18K
R724 36K
R726 3300
R727 3300
R713 110K
R714 6800
R739 82K
7 IN4
6 IN3
5 VC2
4 VC1
3 VLEF
2 IN1
1 IN2
IC701 LB1837M
IC702 LB1837M
8 OUT4
9 GND
10 OUT3
11 OUT1
12 GND
13 OUT2
14 VCC
C701 4R7
C702 4R7
R718 5R6
R717 5R6
R719 PT
C703 10/16V
C704 4R7
C705 PT
C706 4R7
C707 PT
R729 5R6
R728 5R6
C708 10/16V
C710 PT
C709 0.1
R730 120K
R733 180K
R732 8200
R735 5600
R738 390K
R737 220K
R736 1K
C711 0.1
R731 PT
R734 PT
(TO LENS UNIT) FP701
ZOOM_MT3 22
ZOOM_MT4 21
ZOOM_MT1 20
ZOOM_MT2 19
FOCUS_MT4 18
FOCUS_MT3 17
FOCUS_MT2 16
FOCUS_MT1 15
NIGHTSHOT_SW 14
GND 13
F_ENC 12
Z_ENC 11
AF5V 10
LED_CONT 9
ALC_MAIN+ 8
HOLE_IN+ 7
HOLE_OUT+ 6
HOLE_IN- 5
HOLE_OUT- 4
ALC_MAIN- 3
ALC_CONT- 2
ALC_CONT+ 1
ZMT[3]
ZMT[4]
ZMT[1]
ZMT[2]
FMT[4]
FMT[3]
FMT[2]
FMT[1]
HOLE[2]
HOLE[4]
HOLE[1]
HOLE[3]
ZMT[1]
ZMT[3]
ZMT[4]
ZMT[2]
FMT[3]
FMT[1]
FMT[4]
FMT[2]
TO M II 79 LED-CNT
TO M II 119 ZENC
TO M II 120 FENC
TO M II 48 NIGHT-SHOT-SW

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.


R749
0
CAMERA 15V
REGD3V
C712
PT
D701
MA2S728
R751
22K
R748
27K
R753
39K
C713
PT
C720
1
ALCPWM
192
TO M V
STILL_CONT
188
TO M V
Q702
2SD1819A
R739
82K
R741
47K
C714
1000P
R744
1K
C716
0.01
R756
10K
R759
8200
R742
27K
R746
1500
R752
5R6M
7
6
5
4
3
2
1
VOUT2
V2-
V2+
VCC
V1+
V1-
VOUT1
IC703
BA10324AFV
VOUT3
V3-
V3+
GND
V4+
V4-
VOUT4
8
9
10
11
12
13
14
Q707
2SD1819A
R770
1800
R769
PT
Q703
2SD2216
R765
47K
R763
PT
C718
PT
R760
270K
R762
27K
R761
8200
R743
470K
C715
0.1
C717
PT
R755
PT
Q701
PT
C719
0.1
R736
1K
R750
680
R757
PT
R758
PT
R754
100
C710
PT
R733
180K
R735
5600
R740
PT
C709
0.1
R730
120K
R732
8200
R738
390K
R737
220K
C711
0.1
R731
PT
R734
PT
R745
12K
R747
12K
R764
47K
R767
3300
Q704
2SB1218A
Q708
2SD2216
R773
47K
R772
PT
L701
0
AF5V
C721
PT
LENS/LIGHT UNREG
R766
10K
Q705
2SD1819A
R771
47K
Q706
2SD2216
R768
PT
IC704
XC62FP6002PR
3
1
2
C722
4R7/16V
HOLE[3]
HOLE[4]
HOLE[1]
HOLE[2]

LINK TO VOLTAGE CHART

LSJB8165
MAIN IV SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN V SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
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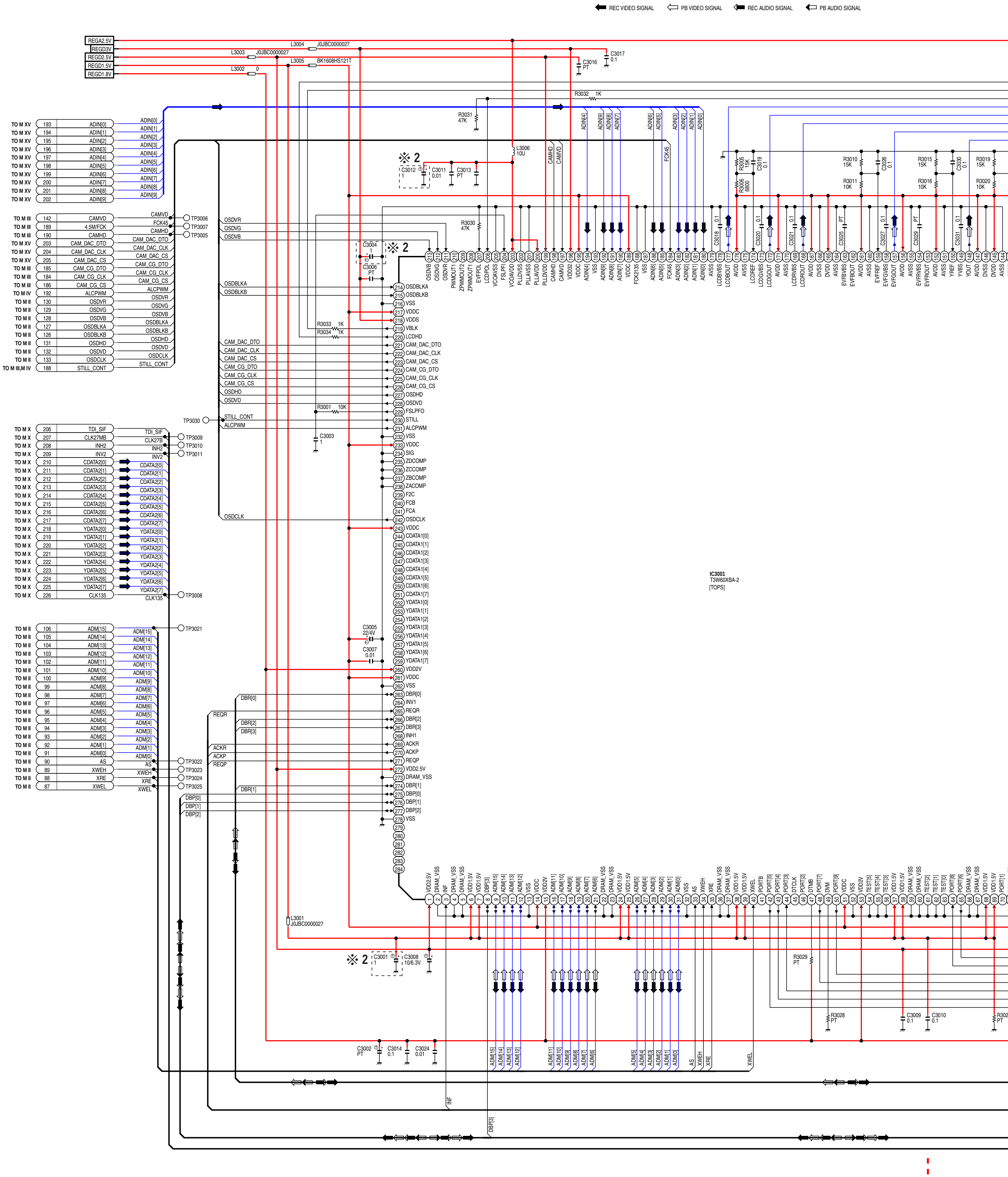
Do not use the part number on this diagram.

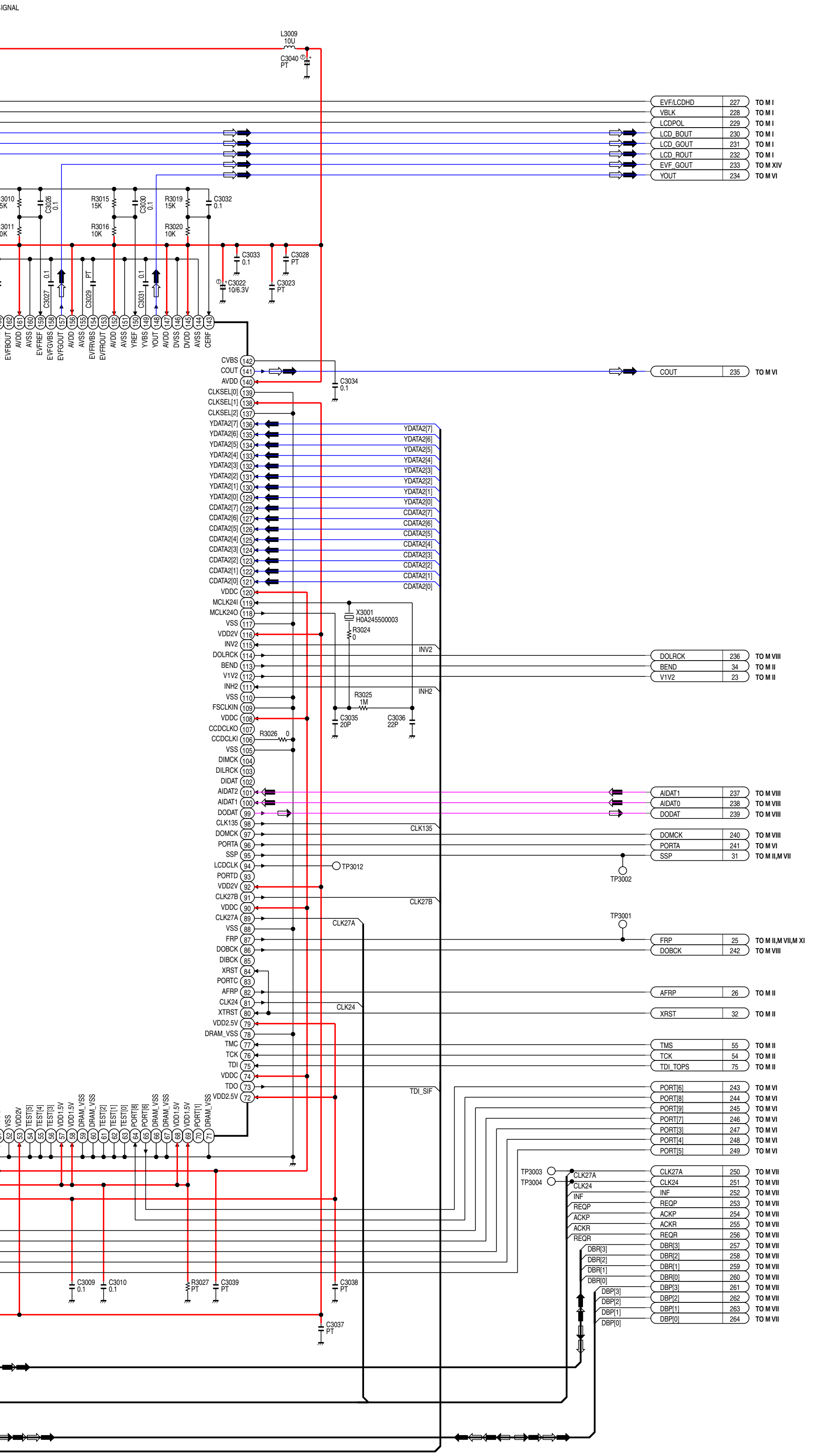


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
REGA2.5V
REGD3V
REGD2.5V
REGD1.5V
REGD1.8V
L3004 J0JBC0000027
L3003 J0JBC0000027
L3005 BK1608HS121T
L3002 0
C3017 0.1
C3016 PT
R3032 1K
R3031 47K
L3006 10U
※ 2
C3012 1
C3011 0.01
C3013 PT
R3030 47K
C3004 1
C3006 PT
R3033 1K
R3034 1K
R3001 10K
C3003 1
C3005 22/4V
C3007 0.01
TO M XV
TO M III
TO M IV
TO M II
TO M X
TO M III,M IV
TP3006
TP3007
TP3005
TP3030
TP3009
TP3010
TP3011
TP3008
TP3021
TP3022
TP3023
TP3024
TP3025
IC3001
T3W60XBA-2
[TOPS]
L3001 J0JBC0000027
C3001 1
C3008 10/6.3V
C3002 PT
C3014 0.1
C3024 0.01
R3029 PT
R3028 PT
C3009 0.1
C3010 0.1
R3005 15K
R3006 6800
C3019 0.1
R3010 15K
R3011 10K
C3026 0.1
R3015 15K
R3016 10K
C3030 0.1
R3019 15K
R3020 10K

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

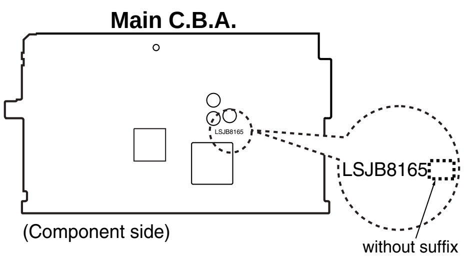
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


IGNAL
L3009 10U
C3040 PT
EVF/LCDHD 227 TO M I
VBLK 228 TO M I
LCDPOL 229 TO M I
LCD_BOUT 230 TO M I
LCD_GOUT 231 TO M I
LCD_ROUT 232 TO M I
EVF_GOUT 233 TO M XIV
YOUT 234 TO M VI
R3015 15K
R3016 10K
R3019 15K
R3020 10K
C3030 0.1
C3032 0.1
C3033 0.1
C3028 PT
C3022 10/6.3V
C3023 PT
C3026 0.1
C3027 0.1
C3029 PT
C3031 0.1
CVBS 142
COUT 141
AVDD 140
C3034 0.1
COUT 235 TO M VI
CLKSEL[0] 139
CLKSEL[1] 138
CLKSEL[2] 137
YDATA2[7] 136
YDATA2[6] 135
YDATA2[5] 134
YDATA2[4] 133
YDATA2[3] 132
YDATA2[2] 131
YDATA2[1] 130
YDATA2[0] 129
CDATA2[7] 128
CDATA2[6] 127
CDATA2[5] 126
CDATA2[4] 125
CDATA2[3] 124
CDATA2[2] 123
CDATA2[1] 122
CDATA2[0] 121
VDDC 120
MCLK24I 119
MCLK24O 118
VSS 117
VDD2V 116
INV2 115
DOLRCK 114
BEND 113
V1V2 112
INH2 111
VSS 110
FSCLKIN 109
VDDC 108
CCDCLKO 107
CCDCLKI 106
VSS 105
DIMCK 104
DILRCK 103
DIDAT 102
AIDAT2 101
AIDAT1 100
DODAT 99
CLK135 98
DOMCK 97
PORTA 96
SSP 95
LCDCLK 94
PORTD 93
VDD2V 92
CLK27B 91
VDDC 90
CLK27A 89
VSS 88
FRP 87
DOBCK 86
DIBCK 85
XRST 84
PORTC 83
AFRP 82
CLK24 81
XTRST 80
VDD2.5V 79
DRAM_VSS 78
TMC 77
TCK 76
TDI 75
VDDC 74
TDO 73
VDD2.5V 72
X3001 H0A245500003
R3024 0
R3025 1M
C3035 20P
C3036 22P
R3026 0
DOLRCK 236 TO M VIII
BEND 34 TO M II
V1V2 23 TO M II
AIDAT1 237 TO M VIII
AIDAT0 238 TO M VIII
DODAT 239 TO M VIII
DOMCK 240 TO M VIII
PORTA 241 TO M VI
SSP 31 TO M II,M VII
TP3012
TP3002
TP3001
FRP 25 TO M II,M VII,M XI
DOBCK 242 TO M VIII
AFRP 26 TO M II
XRST 32 TO M II
TMS 55 TO M II
TCK 54 TO M II
TDI_TOPS 75 TO M II
PORT[6] 243 TO M VI
PORT[8] 244 TO M VI
PORT[9] 245 TO M VI
PORT[7] 246 TO M VI
PORT[3] 247 TO M VI
PORT[4] 248 TO M VI
PORT[5] 249 TO M VI
TP3003
TP3004
CLK27A 250 TO M VII
CLK24 251 TO M VII
INF 252 TO M VII
REQP 253 TO M VII
ACKP 254 TO M VII
ACKR 255 TO M VII
REQR 256 TO M VII
DBR[3] 257 TO M VII
DBR[2] 258 TO M VII
DBR[1] 259 TO M VII
DBR[0] 260 TO M VII
DBP[3] 261 TO M VII
DBP[2] 262 TO M VII
DBP[1] 263 TO M VII
DBP[0] 264 TO M VII
C3009 0.1
C3010 0.1
R3027 PT
C3039 PT
C3038 PT
C3037 PT

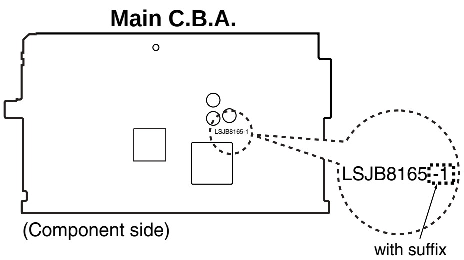
※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

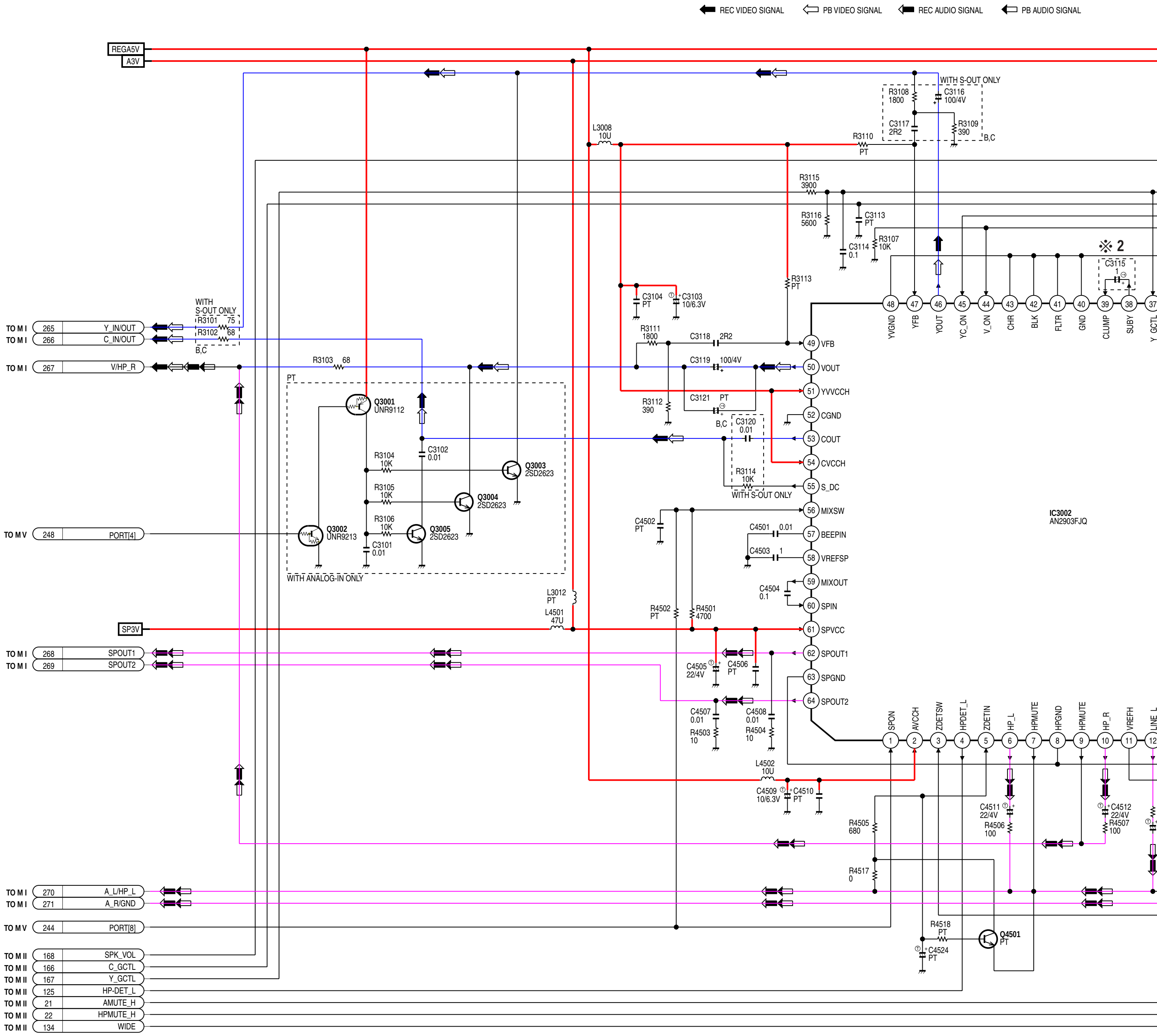
For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LSJB8165
MAIN V SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN VI SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.



REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
REGA5V
A3V
SP3V
TO M I 265 Y_IN/OUT
TO M I 266 C_IN/OUT
TO M I 267 V/HP_R
TO M V 248 PORT[4]
TO M I 268 SPOUT1
TO M I 269 SPOUT2
TO M I 270 A_L/HP_L
TO M I 271 A_R/GND
TO M V 244 PORT[8]
TO M II 168 SPK_VOL
TO M II 166 C_GCTL
TO M II 167 Y_GCTL
TO M II 125 HP-DET_L
TO M II 21 AMUTE_H
TO M II 22 HPMUTE_H
TO M II 134 WIDE
WITH S-OUT ONLY
R3101 75
R3102 68
B,C
R3103 68
PT
Q3001 UNR9112
Q3002 UNR9213
Q3003 2SD2623
Q3004 2SD2623
Q3005 2SD2623
R3104 10K
R3105 10K
R3106 10K
C3101 0.01
C3102 0.01
WITH ANALOG-IN ONLY
L3008 10U
L3012 PT
L4501 47U
R3108 1800
C3116 100/4V
C3117 2R2
R3109 390
R3110 PT
R3115 3900
R3116 5600
C3113 PT
C3114 0.1
R3107 10K
R3113 PT
C3104 PT
C3103 10/6.3V
R3111 1800
C3118 2R2
C3119 100/4V
R3112 390
C3121 PT
C3120 0.01
R3114 10K
WITH S-OUT ONLY
※ 2
C3115 1
C4502 PT
C4501 0.01
C4503 1
C4504 0.1
R4502 PT
R4501 4700
C4505 22/4V
C4506 PT
C4507 0.01
C4508 0.01
R4503 10
R4504 10
L4502 10U
C4509 10/6.3V
C4510 PT
R4505 680
R4517 0
R4518 PT
C4524 PT
Q4501 PT
C4511 22/4V
R4506 100
C4512 22/4V
R4507 100
IC3002 AN2903FJQ
48 YVGND
47 YFB
46 YOUT
45 YC_ON
44 V_ON
43 CHR
42 BLK
41 FLTR
40 GND
39 CLUMP
38 SUBY
37 Y_GCTL
49 VFB
50 VOUT
51 YVVCCH
52 CGND
53 COUT
54 CVCCH
55 S_DC
56 MIXSW
57 BEEPIN
58 VREFSP
59 MIXOUT
60 SPIN
61 SPVCC
62 SPOUT1
63 SPGND
64 SPOUT2
1 SPON
2 AVCCH
3 ZDETSW
4 HPDET_L
5 ZDETIN
6 HP_L
7 HPMUTE
8 HPGND
9 HPMUTE
10 HP_R
11 VREFH
12 LINE_L

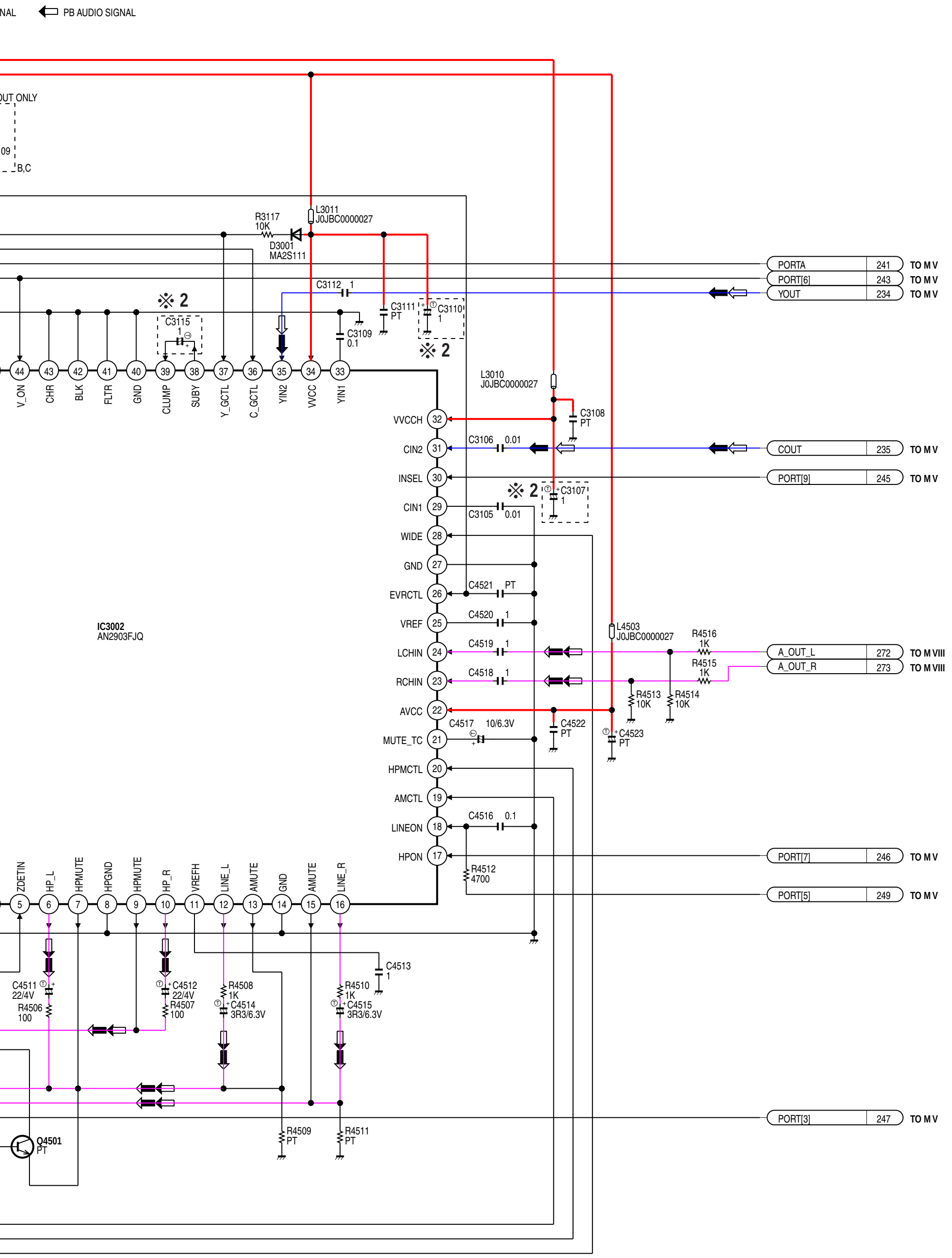
rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT


NAL
PB AUDIO SIGNAL
OUT ONLY
09
B,C
R3117
10K
L3011
J0JBC0000027
D3001
MA2S111
C3112 1
※ 2
C3115
1
C3111
PT
C3110
1
C3109
0.1
※ 2
PORTA 241 TO M V
PORT[6] 243 TO M V
YOUT 234 TO M V
V_ON
CHR
BLK
FLTR
GND
CLUMP
SUBY
Y_GCTL
C_GCTL
YIN2
VVCC
YIN1
L3010
J0JBC0000027
C3108
PT
VVCCH 32
CIN2 31
INSEL 30
CIN1 29
WIDE 28
GND 27
EVRCTL 26
VREF 25
LCHIN 24
RCHIN 23
AVCC 22
MUTE_TC 21
HPMCTL 20
AMCTL 19
LINEON 18
HPON 17
C3106 0.01
C3105 0.01
※ 2
C3107
1
COUT 235 TO M V
PORT[9] 245 TO M V
IC3002
AN2903FJQ
C4521 PT
C4520 1
C4519 1
C4518 1
C4517 10/6.3V
C4516 0.1
C4522
PT
C4523
PT
L4503
J0JBC0000027
R4516
1K
R4515
1K
R4513
10K
R4514
10K
R4512
4700
A_OUT_L 272 TO M VIII
A_OUT_R 273 TO M VIII
PORT[7] 246 TO M V
PORT[5] 249 TO M V
ZDETIN
HP_L
HPMUTE
HPGND
HPMUTE
HP_R
VREFH
LINE_L
AMUTE
GND
AMUTE
LINE_R
C4511
22/4V
R4506
100
C4512
22/4V
R4507
100
R4508
1K
C4514
3R3/6.3V
R4510
1K
C4515
3R3/6.3V
C4513
1
R4509
PT
R4511
PT
Q4501
PT
PORT[3] 247 TO M V

※ 2

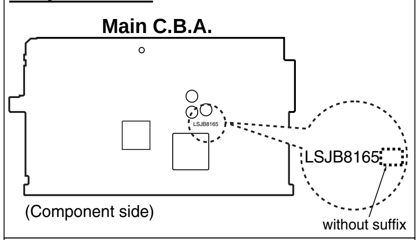
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.

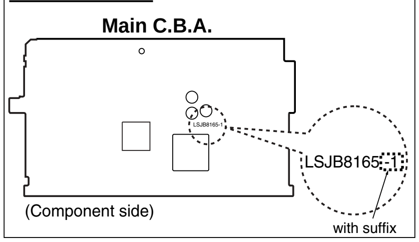
In early products: LSJB8165 (without suffix)

In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.

Please note that D1101 has been deleted in later products.

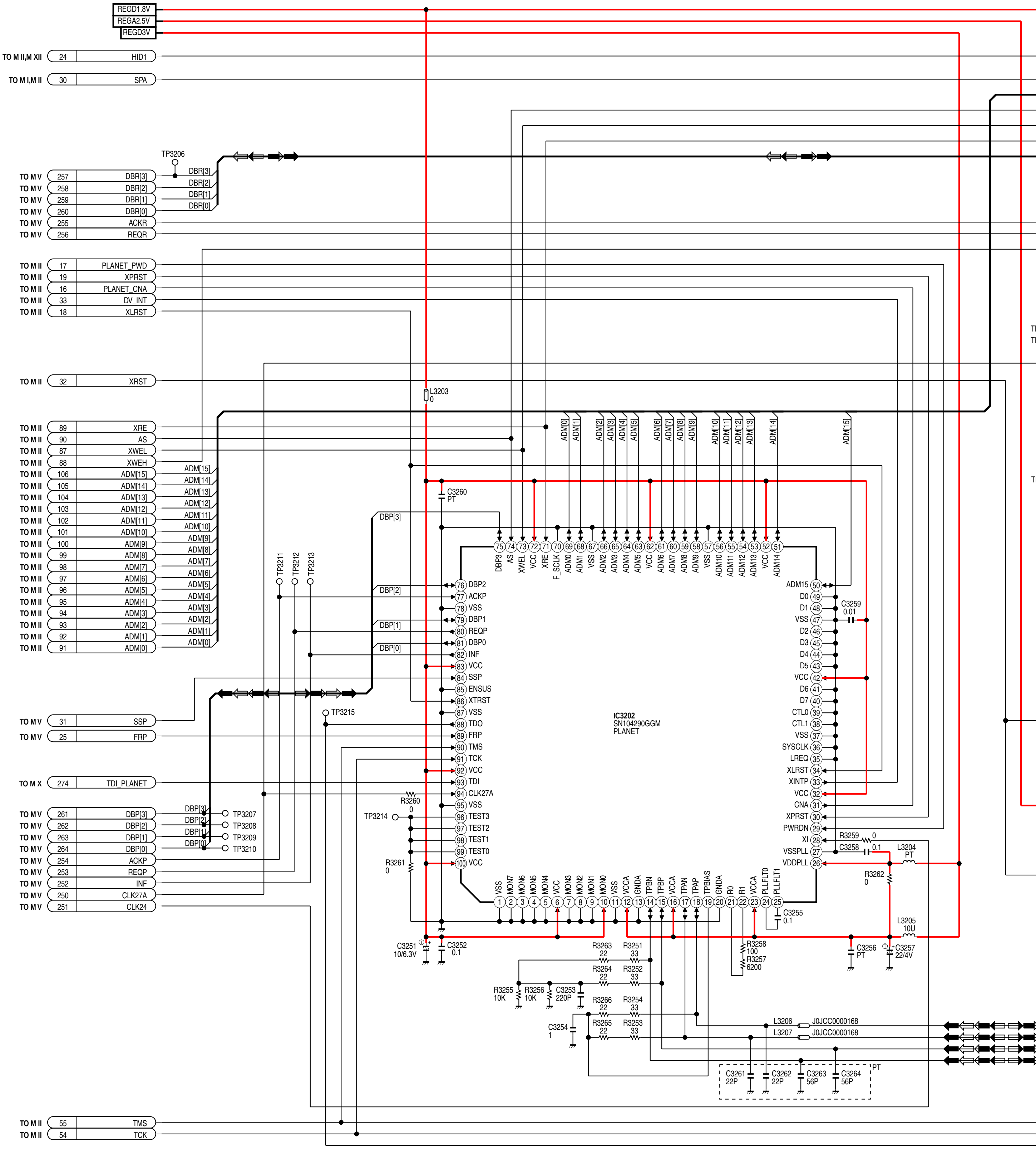
Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LSJB8165
MAIN VI SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN VII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.

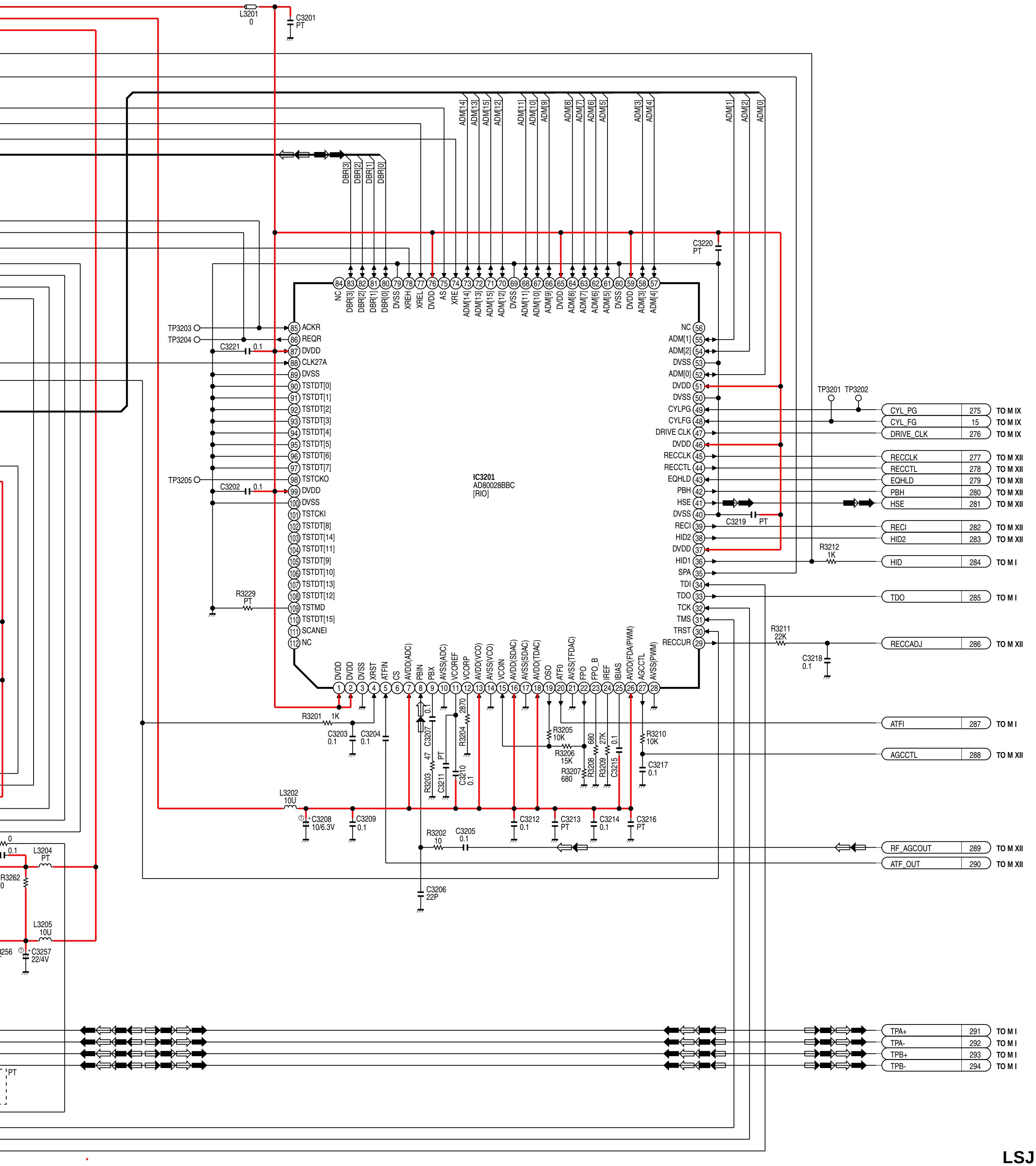
REC VIDEO SIGNAL PB VIDEO SIGNAL REC AUDIO SIGNAL PB AUDIO SIGNAL


REGD1.8V
REGA2.5V
REGD3V
TO M II,M XII 24 HID1
TO M I,M II 30 SPA
TP3206
TO M V 257 DBR[3]
TO M V 258 DBR[2]
TO M V 259 DBR[1]
TO M V 260 DBR[0]
TO M V 255 ACKR
TO M V 256 REQR
TO M II 17 PLANET_PWD
TO M II 19 XPRST
TO M II 16 PLANET_CNA
TO M II 33 DV_INT
TO M II 18 XLRST
TO M II 32 XRST
L3203 0
TO M II 89 XRE
TO M II 90 AS
TO M II 87 XWEL
TO M II 88 XWEH
TO M II 106 ADM[15]
TO M II 105 ADM[14]
TO M II 104 ADM[13]
TO M II 103 ADM[12]
TO M II 102 ADM[11]
TO M II 101 ADM[10]
TO M II 100 ADM[9]
TO M II 99 ADM[8]
TO M II 98 ADM[7]
TO M II 97 ADM[6]
TO M II 96 ADM[5]
TO M II 95 ADM[4]
TO M II 94 ADM[3]
TO M II 93 ADM[2]
TO M II 92 ADM[1]
TO M II 91 ADM[0]
C3260 PT
TP3211 TP3212 TP3213
TO M V 31 SSP
TO M V 25 FRP
TP3215
TO M X 274 TDI_PLANET
TO M V 261 DBP[3]
TO M V 262 DBP[2]
TO M V 263 DBP[1]
TO M V 264 DBP[0]
TO M V 254 ACKP
TO M V 253 REQP
TO M V 252 INF
TO M V 250 CLK27A
TO M V 251 CLK24
TP3207 TP3208 TP3209 TP3210
TP3214
R3260 0
R3261 0
IC3202
SN104290GGM
PLANET
C3259 0.01
R3259 0
C3258 0.1
L3204 PT
R3262 0
L3205 10U
C3255 0.1
C3251 10/6.3V
C3252 0.1
R3263 22 R3251 33
R3264 22 R3252 33
R3255 10K R3256 10K C3253 220P
R3266 22 R3254 33
R3265 22 R3253 33
C3254 1
R3258 100 R3257 6200
C3256 PT C3257 22/4V
L3206 J0JCC0000168
L3207 J0JCC0000168
C3261 22P C3262 22P C3263 56P C3264 56P PT
TO M II 55 TMS
TO M II 54 TCK

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

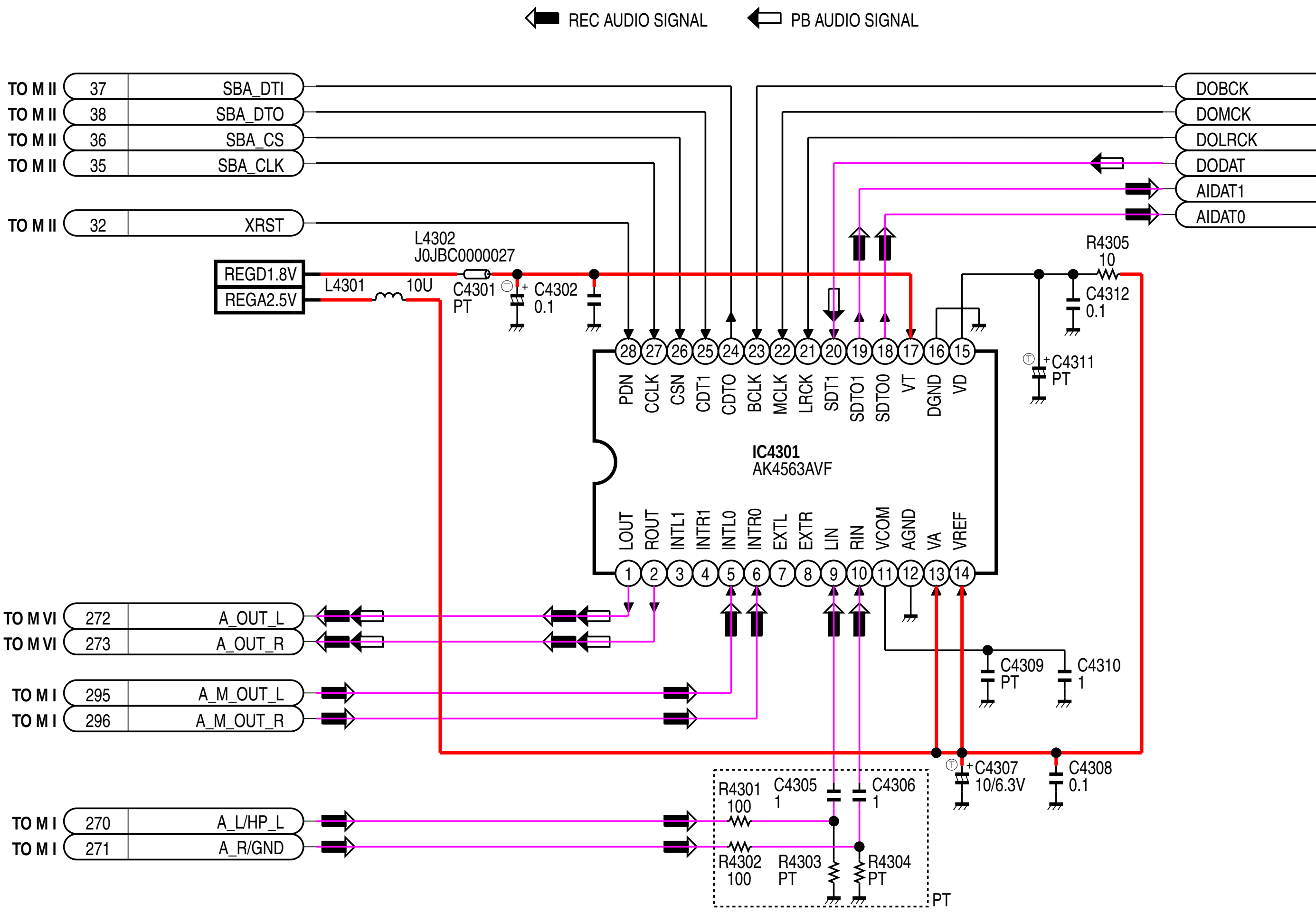
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


IC3201
AD80028BBC
[RIO]
L3201 0
C3201 PT
C3220 PT
C3221 0.1
C3202 0.1
TP3203
TP3204
TP3205
TP3201
TP3202
R3229 PT
ACKR
REQR
DVDD
CLK27A
DVSS
TSTDT[0]
TSTDT[1]
TSTDT[2]
TSTDT[3]
TSTDT[4]
TSTDT[5]
TSTDT[6]
TSTDT[7]
TSTCKO
DVDD
DVSS
TSTCKI
TSTDT[8]
TSTDT[14]
TSTDT[11]
TSTDT[9]
TSTDT[10]
TSTDT[13]
TSTDT[12]
TSTMD
TSTDT[15]
SCANEI
NC
NC
ADM[1]
ADM[2]
DVSS
ADM[0]
DVDD
DVSS
CYLPG
CYLFG
DRIVE CLK
DVDD
RECCLK
RECCTL
EQHLD
PBH
HSE
DVSS
RECI
HID2
DVDD
HID1
SPA
TDI
TDO
TCK
TMS
TRST
RECCUR
DBR[3]
DBR[2]
DBR[1]
DBR[0]
DVSS
XREH
XREL
DVDD
AS
XRE
ADM[14]
ADM[13]
ADM[15]
ADM[12]
DVSS
ADM[11]
ADM[10]
ADM[9]
DVDD
ADM[8]
ADM[7]
ADM[6]
ADM[5]
DVSS
DVDD
ADM[3]
ADM[4]
DVDD
DVDD
DVSS
XRST
ATFIN
CS
AVDD(ADC)
PBIN
PBX
AVSS(ADC)
VCOREF
VCORP
AVDD(VCO)
AVSS(VCO)
VCOIN
AVDD(SDAC)
AVSS(SDAC)
AVDD(TDAC)
OSO
ATF0
AVSS(TFDAC)
FPO
FPO_B
IREF
IBIAS
AVDD(FDA/PWM)
AGCCTL
AVSS(PWM)
C3219 PT
R3212 1K
R3211 22K
C3218 0.1
R3201 1K
C3203 0.1
C3204 0.1
R3203 47
C3207 0.1
C3211 PT
R3204 2870
C3210 0.1
R3205 10K
R3206 15K
R3207 680
R3208 680
R3209 27K
C3215 0.1
R3210 10K
C3217 0.1
L3202 10U
C3208 10/6.3V
C3209 0.1
C3212 0.1
C3213 PT
C3214 0.1
C3216 PT
R3202 10
C3205 0.1
C3206 22P
L3204 PT
R3262 0
L3205 10U
C3257 22/4V
CYL_PG 275 TO M IX
CYL_FG 15 TO M IX
DRIVE_CLK 276 TO M IX
RECCLK 277 TO M XII
RECCTL 278 TO M XII
EQHLD 279 TO M XII
PBH 280 TO M XII
HSE 281 TO M XII
RECI 282 TO M XII
HID2 283 TO M XII
HID 284 TO M I
TDO 285 TO M I
RECCADJ 286 TO M XII
ATFI 287 TO M I
AGCCTL 288 TO M XII
RF_AGCOUT 289 TO M XII
ATF_OUT 290 TO M XII
TPA+ 291 TO M I
TPA- 292 TO M I
TPB+ 293 TO M I
TPB- 294 TO M I

LSJB8165
MAIN VII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN VIII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.

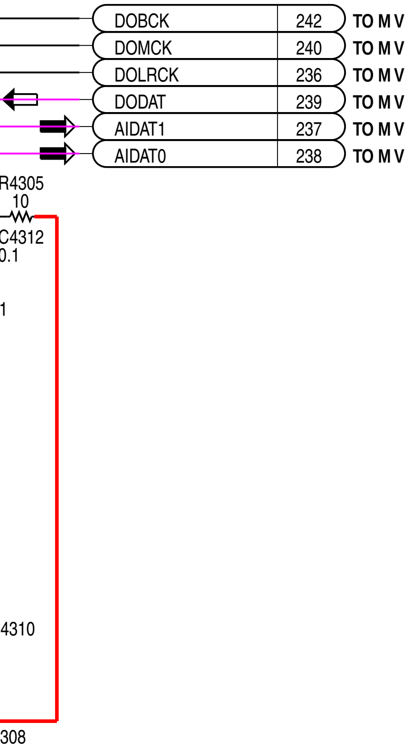


REC AUDIO SIGNAL
PB AUDIO SIGNAL
TO M II 37 SBA_DTI
TO M II 38 SBA_DTO
TO M II 36 SBA_CS
TO M II 35 SBA_CLK
TO M II 32 XRST
DOBCK
DOMCK
DOLRCK
DODAT
AIDAT1
AIDAT0
L4302
J0JBC0000027
REGD1.8V
REGA2.5V
L4301
10U
C4301
PT
C4302
0.1
R4305
10
C4312
0.1
C4311
PT
PDN
CCLK
CSN
CDT1
CDTO
BCLK
MCLK
LRCK
SDT1
SDTO1
SDTO0
VT
DGND
VD
IC4301
AK4563AVF
LOUT
ROUT
INTL1
INTR1
INTL0
INTR0
EXTL
EXTR
LIN
RIN
VCOM
AGND
VA
VREF
TO M VI 272 A_OUT_L
TO M VI 273 A_OUT_R
TO M I 295 A_M_OUT_L
TO M I 296 A_M_OUT_R
C4309
PT
C4310
1
C4307
10/6.3V
C4308
0.1
R4301
100
C4305
1
C4306
1
R4302
100
R4303
PT
R4304
PT
PT
TO M I 270 A_L/HP_L
TO M I 271 A_R/GND

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

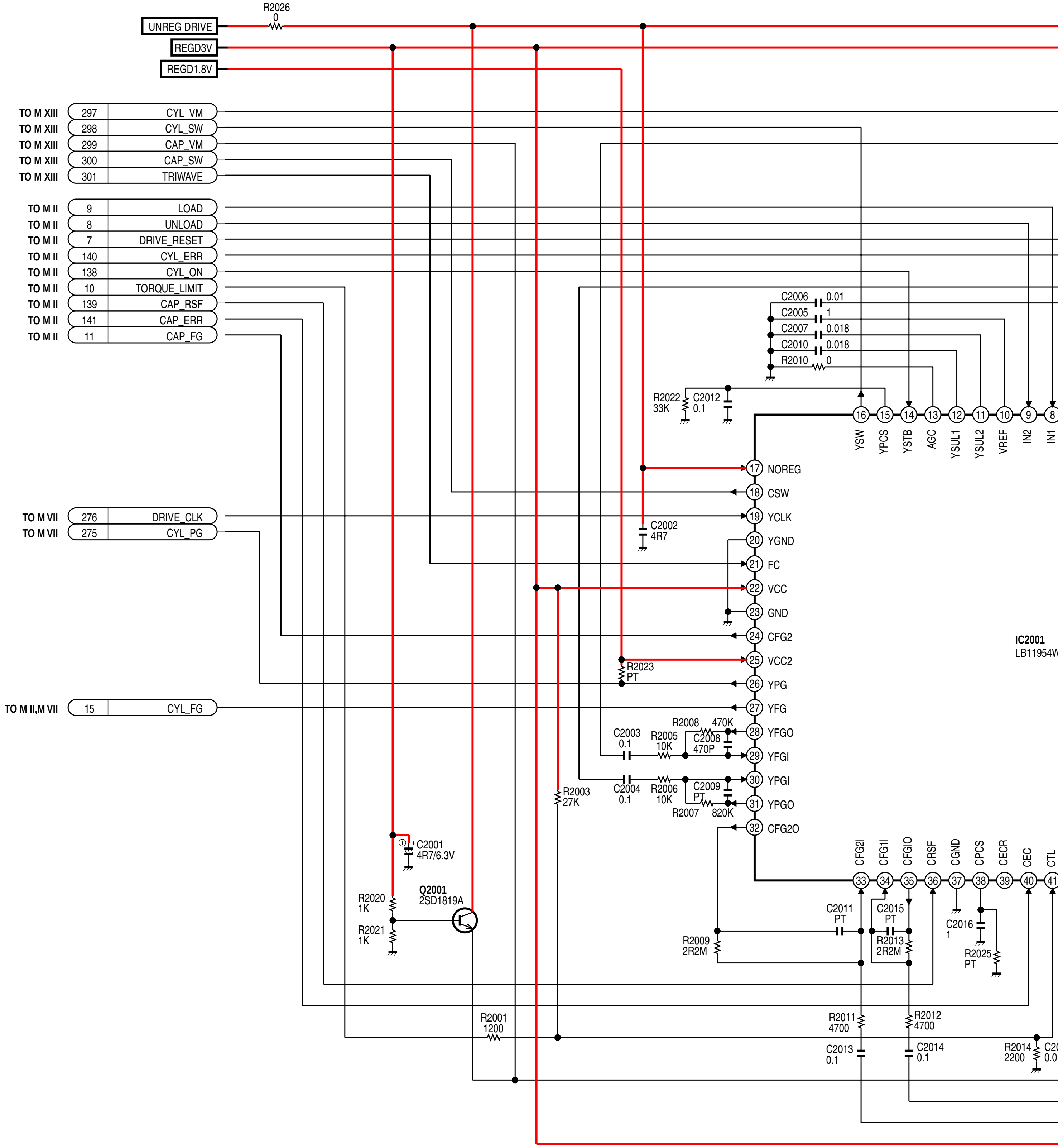

DOBCK
242
TO M V
DOMCK
240
TO M V
DOLRCK
236
TO M V
DODAT
239
TO M V
AIDAT1
237
TO M V
AIDAT0
238
TO M V
R4305
10
C4312
0.1
1
4310
308

LINK TO VOLTAGE CHART

LSJB8165
MAIN VIII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN IX SCHEMATIC DIAGRAM

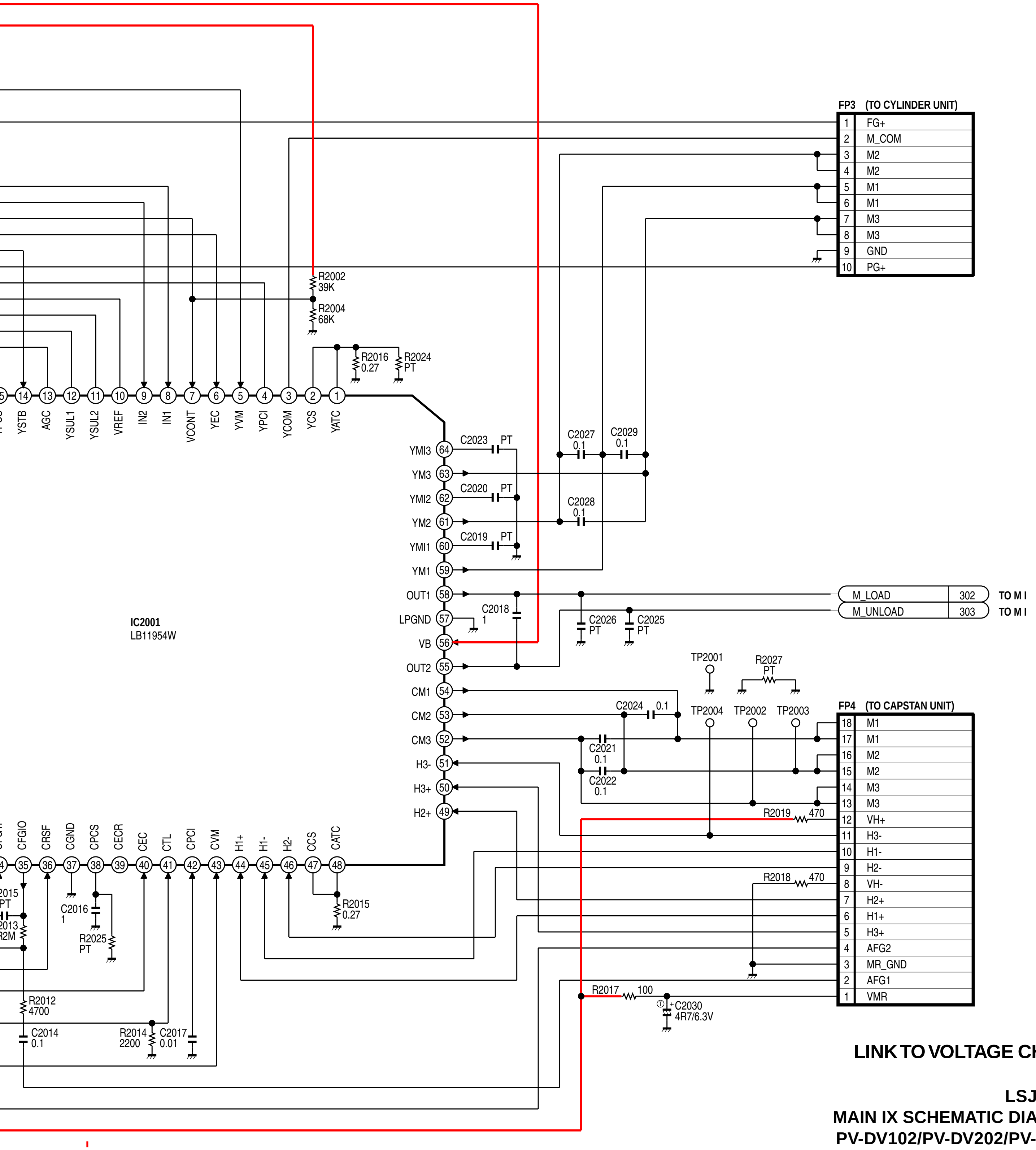
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


R2026
0
UNREG DRIVE
REGD3V
REGD1.8V
TO M XIII 297 CYL_VM
TO M XIII 298 CYL_SW
TO M XIII 299 CAP_VM
TO M XIII 300 CAP_SW
TO M XIII 301 TRIWAVE
TO M II 9 LOAD
TO M II 8 UNLOAD
TO M II 7 DRIVE_RESET
TO M II 140 CYL_ERR
TO M II 138 CYL_ON
TO M II 10 TORQUE_LIMIT
TO M II 139 CAP_RSF
TO M II 141 CAP_ERR
TO M II 11 CAP_FG
TO M VII 276 DRIVE_CLK
TO M VII 275 CYL_PG
TO M II,M VII 15 CYL_FG
C2006 0.01
C2005 1
C2007 0.018
C2010 0.018
R2010 0
R2022 33K
C2012 0.1
16 YSW
15 YPCS
14 YSTB
13 AGC
12 YSUL1
11 YSUL2
10 VREF
9 IN2
8 IN1
17 NOREG
18 CSW
19 YCLK
20 YGND
21 FC
22 VCC
23 GND
24 CFG2
25 VCC2
26 YPG
27 YFG
28 YFGO
29 YFGI
30 YPGI
31 YPGO
32 CFG2O
C2002 4R7
R2023 PT
IC2001
LB11954W
C2003 0.1
R2005 10K
R2008 470K
C2008 470P
C2004 0.1
R2006 10K
C2009 PT
R2007 820K
R2003 27K
C2001 4R7/6.3V
Q2001 2SD1819A
R2020 1K
R2021 1K
33 CFG2I
34 CFG1I
35 CFGIO
36 CRSF
37 CGND
38 CPCS
39 CECR
40 CEC
41 CTL
C2011 PT
C2015 PT
R2013 2R2M
R2009 2R2M
C2016 1
R2025 PT
R2001 1200
R2011 4700
R2012 4700
C2013 0.1
C2014 0.1
R2014 2200
C2 0.0

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

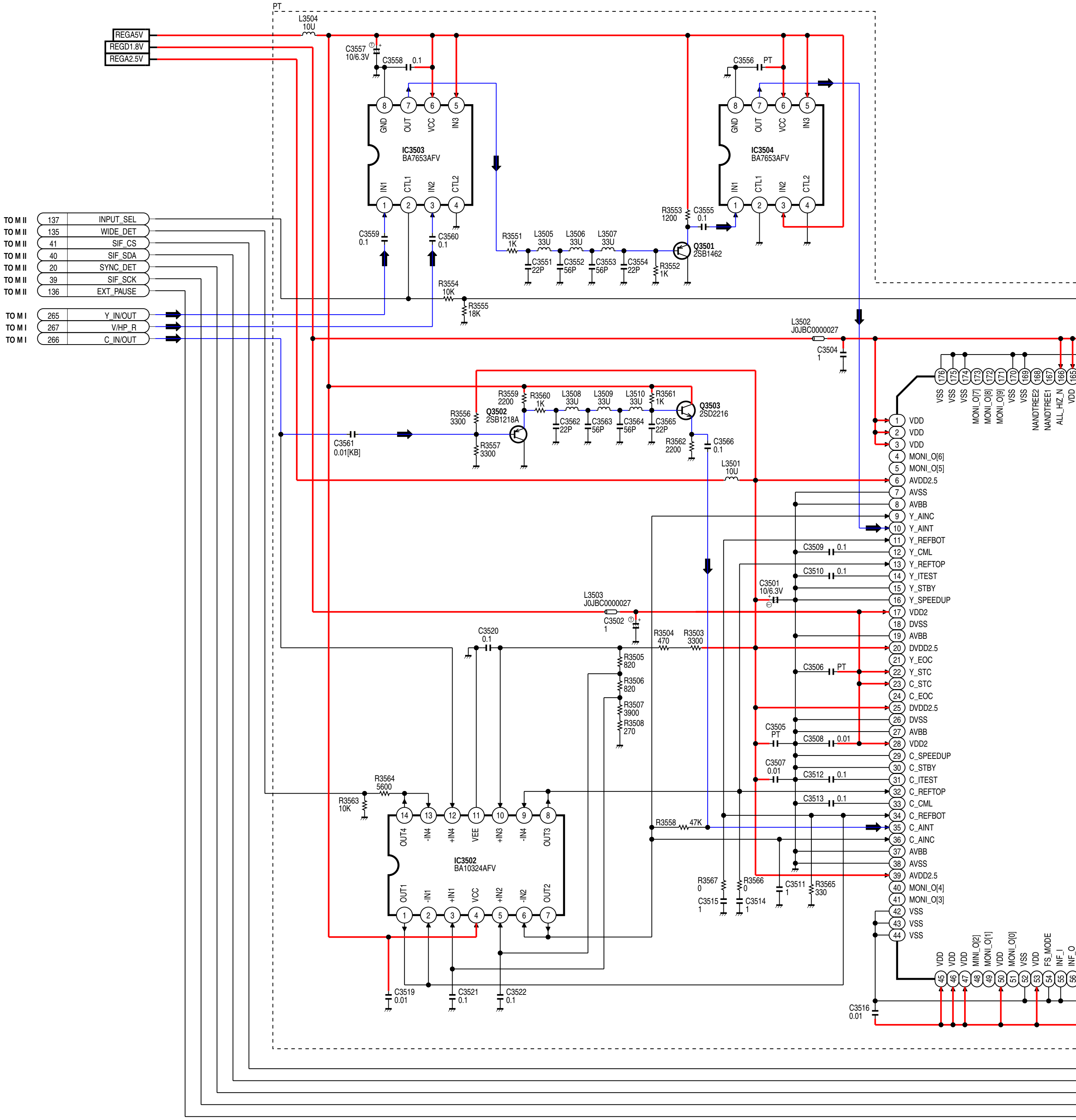

FP3 (TO CYLINDER UNIT)
1 FG+
2 M_COM
3 M2
4 M2
5 M1
6 M1
7 M3
8 M3
9 GND
10 PG+
R2002 39K
R2004 68K
R2016 0.27
R2024 PT
YSTB
AGC
YSUL1
YSUL2
VREF
IN2
IN1
VCONT
YEC
YVM
YPCI
YCOM
YCS
YATC
YMI3 64
YM3 63
YMI2 62
YM2 61
YMI1 60
YM1 59
OUT1 58
LPGND 57
VB 56
OUT2 55
CM1 54
CM2 53
CM3 52
H3- 51
H3+ 50
H2+ 49
C2023 PT
C2020 PT
C2019 PT
C2018 1
C2027 0.1
C2029 0.1
C2028 0.1
C2026 PT
C2025 PT
M_LOAD 302 TO M I
M_UNLOAD 303 TO M I
IC2001
LB11954W
TP2001
R2027 PT
C2024 0.1
TP2004
TP2002
TP2003
C2021 0.1
C2022 0.1
R2019 470
R2018 470
R2017 100
C2030 4R7/6.3V
FP4 (TO CAPSTAN UNIT)
18 M1
17 M1
16 M2
15 M2
14 M3
13 M3
12 VH+
11 H3-
10 H1-
9 H2-
8 VH-
7 H2+
6 H1+
5 H3+
4 AFG2
3 MR_GND
2 AFG1
1 VMR
CFGIO
CRSF
CGND
CPCS
CECR
CEC
CTL
CPCI
CVM
H1+
H1-
H2-
CCS
CATC
R2015 0.27
C2016 1
R2025 PT
R2012 4700
C2014 0.1
R2014 2200
C2017 0.01
2015 PT
2013 2M

LINK TO VOLTAGE CHART

LSJB8165
MAIN IX SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN X SCHEMATIC DIAGRAM

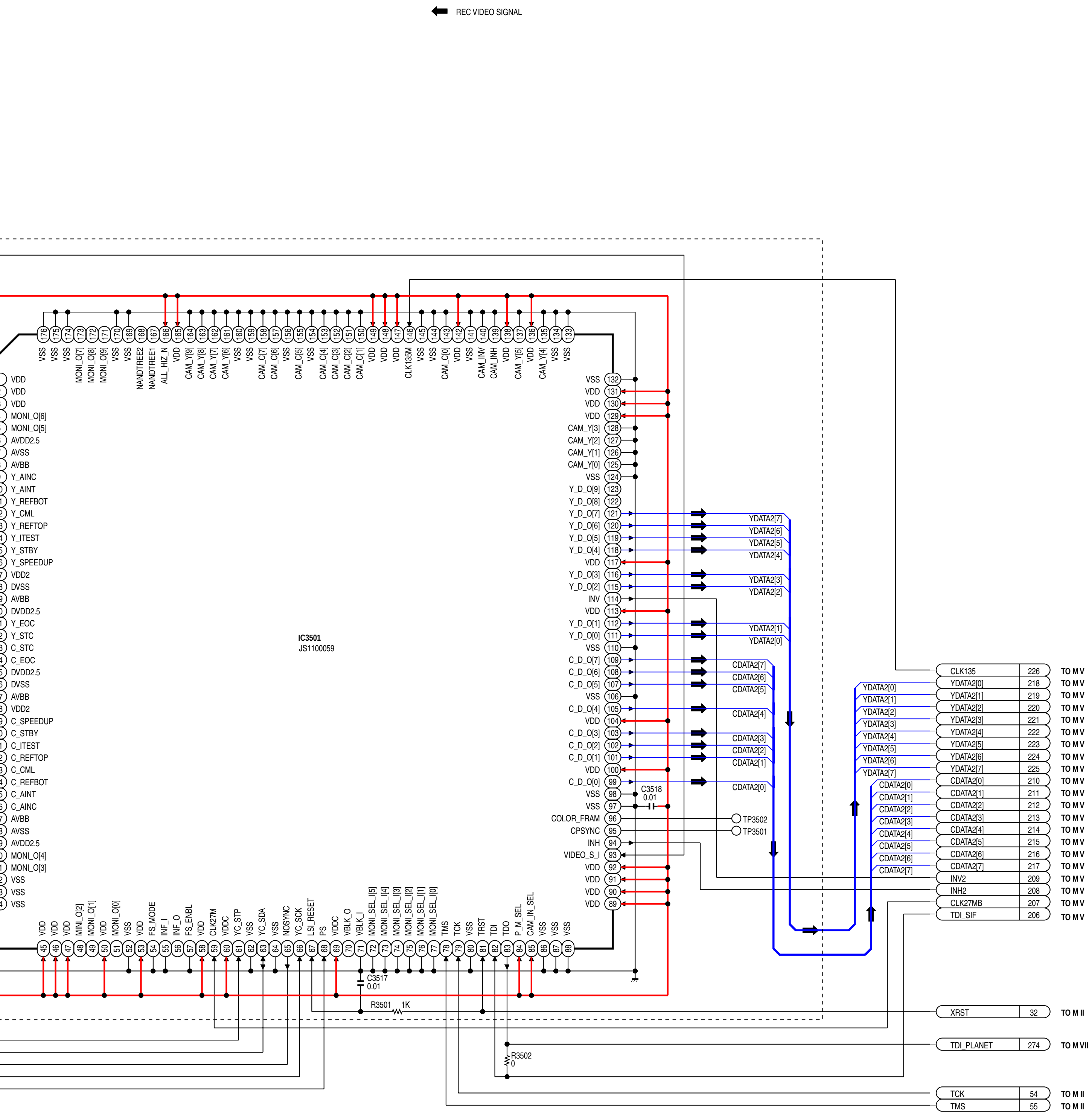
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


PT
L3504
10U
REGA5V
REGD1.8V
REGA2.5V
C3557
10/6.3V
C3558 0.1
IC3503
BA7653AFV
GND
OUT
VCC
IN3
IN1
CTL1
IN2
CTL2
C3556 PT
IC3504
BA7653AFV
C3559
0.1
C3560
0.1
R3551
1K
L3505
33U
L3506
33U
L3507
33U
R3553
1200
C3555
0.1
Q3501
2SB1462
C3551
22P
C3552
56P
C3553
56P
C3554
22P
R3552
1K
R3554
10K
R3555
18K
TO M II 137 INPUT_SEL
TO M II 135 WIDE_DET
TO M II 41 SIF_CS
TO M II 40 SIF_SDA
TO M II 20 SYNC_DET
TO M II 39 SIF_SCK
TO M II 136 EXT_PAUSE
TO M I 265 Y_IN/OUT
TO M I 267 V/HP_R
TO M I 266 C_IN/OUT
L3502
J0JBC0000027
C3504
1
R3559
2200
R3560
1K
L3508
33U
L3509
33U
L3510
33U
R3561
1K
Q3503
2SD2216
R3556
3300
Q3502
2SB1218A
C3562
22P
C3563
56P
C3564
56P
C3565
22P
C3561
0.01[KB]
R3557
3300
R3562
2200
C3566
0.1
L3501
10U
L3503
J0JBC0000027
C3502
1
C3520
0.1
R3504
470
R3503
3300
R3505
820
R3506
820
R3507
3900
R3508
270
C3509 0.1
C3510 0.1
C3501
10/6.3V
C3506 PT
C3505
PT
C3508 0.01
C3507
0.01
C3512 0.1
C3513 0.1
R3564
5600
R3563
10K
IC3502
BA10324AFV
OUT4
-IN4
+IN4
VEE
+IN3
-IN3
OUT3
OUT1
-IN1
+IN1
VCC
+IN2
-IN2
OUT2
R3558 47K
R3567
0
R3566
0
C3511
1
R3565
330
C3515
1
C3514
1
C3519
0.01
C3521
0.1
C3522
0.1
C3516
0.01
1 VDD
2 VDD
3 VDD
4 MONI_O[6]
5 MONI_O[5]
6 AVDD2.5
7 AVSS
8 AVBB
9 Y_AINC
10 Y_AINT
11 Y_REFBOT
12 Y_CML
13 Y_REFTOP
14 Y_ITEST
15 Y_STBY
16 Y_SPEEDUP
17 VDD2
18 DVSS
19 AVBB
20 DVDD2.5
21 Y_EOC
22 Y_STC
23 C_STC
24 C_EOC
25 DVDD2.5
26 DVSS
27 AVBB
28 VDD2
29 C_SPEEDUP
30 C_STBY
31 C_ITEST
32 C_REFTOP
33 C_CML
34 C_REFBOT
35 C_AINT
36 C_AINC
37 AVBB
38 AVSS
39 AVDD2.5
40 MONI_O[4]
41 MONI_O[3]
42 VSS
43 VSS
44 VSS
176 VSS
175 VSS
174 VSS
173 MONI_O[7]
172 MONI_O[8]
171 MONI_O[9]
170 VSS
169 VSS
168 NANDTREE2
167 NANDTREE1
166 ALL_HIZ_N
165 VDD
45 VDD
46 VDD
47 VDD
48 MINI_O[2]
49 MONI_O[1]
50 VDD
51 MONI_O[0]
52 VSS
53 VDD
54 FS_MODE
55 INF_I
56 INF_O

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

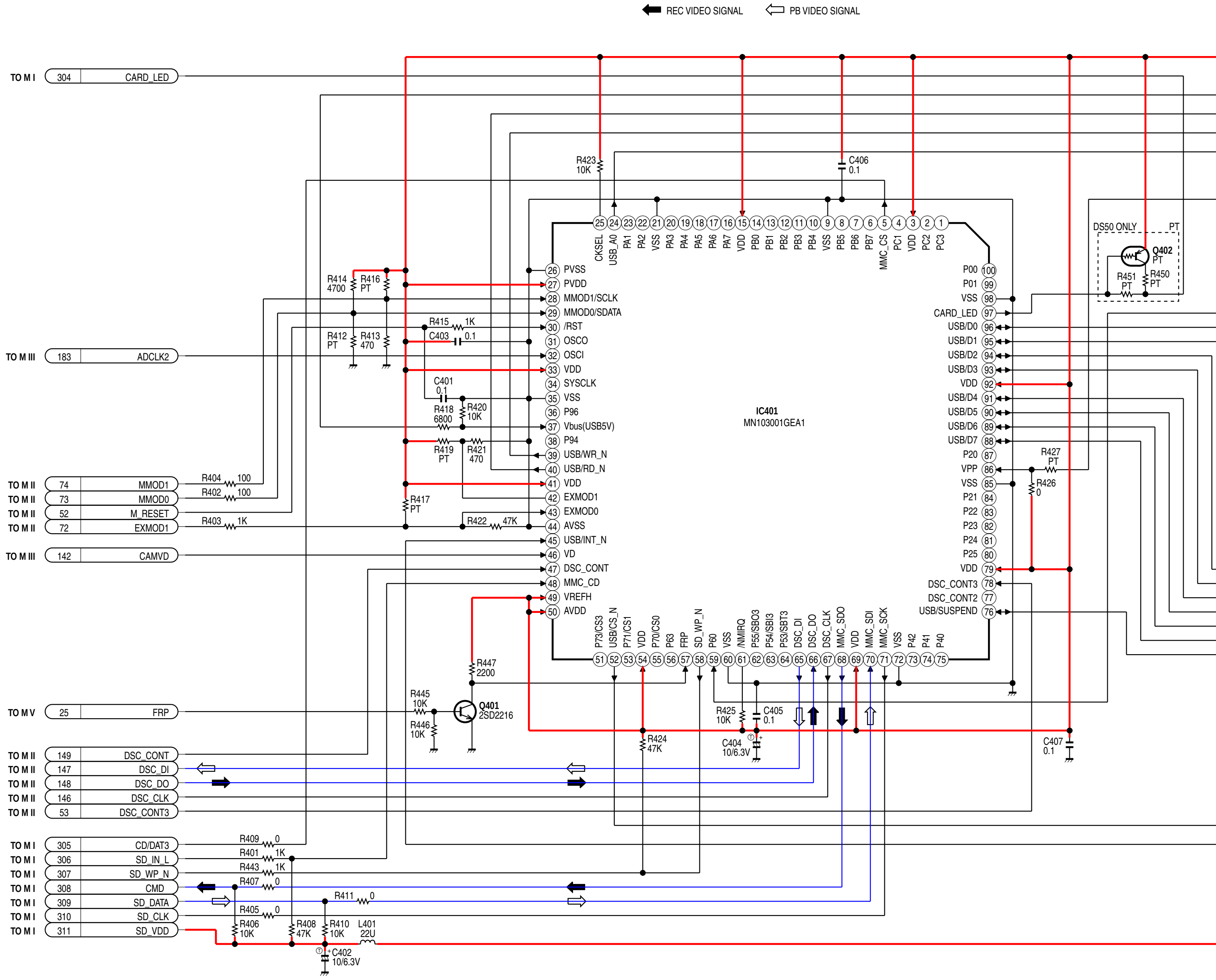


REC VIDEO SIGNAL
IC3501
JS1100059
C3518
0.01
C3517
0.01
R3501
1K
R3502
0
TP3502
TP3501
COLOR_FRAM
CPSYNC
INH
VIDEO_S_I
INV
CLK135M
CLK27M
YDATA2[0]
YDATA2[1]
YDATA2[2]
YDATA2[3]
YDATA2[4]
YDATA2[5]
YDATA2[6]
YDATA2[7]
CDATA2[0]
CDATA2[1]
CDATA2[2]
CDATA2[3]
CDATA2[4]
CDATA2[5]
CDATA2[6]
CDATA2[7]
CLK135 226 TO M V
YDATA2[0] 218 TO M V
YDATA2[1] 219 TO M V
YDATA2[2] 220 TO M V
YDATA2[3] 221 TO M V
YDATA2[4] 222 TO M V
YDATA2[5] 223 TO M V
YDATA2[6] 224 TO M V
YDATA2[7] 225 TO M V
CDATA2[0] 210 TO M V
CDATA2[1] 211 TO M V
CDATA2[2] 212 TO M V
CDATA2[3] 213 TO M V
CDATA2[4] 214 TO M V
CDATA2[5] 215 TO M V
CDATA2[6] 216 TO M V
CDATA2[7] 217 TO M V
INV2 209 TO M V
INH2 208 TO M V
CLK27MB 207 TO M V
TDI_SIF 206 TO M V
XRST 32 TO M II
TDI_PLANET 274 TO M VII
TCK 54 TO M II
TMS 55 TO M II

LSJB8165
MAIN X SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XI SCHEMATIC DIAGRAM

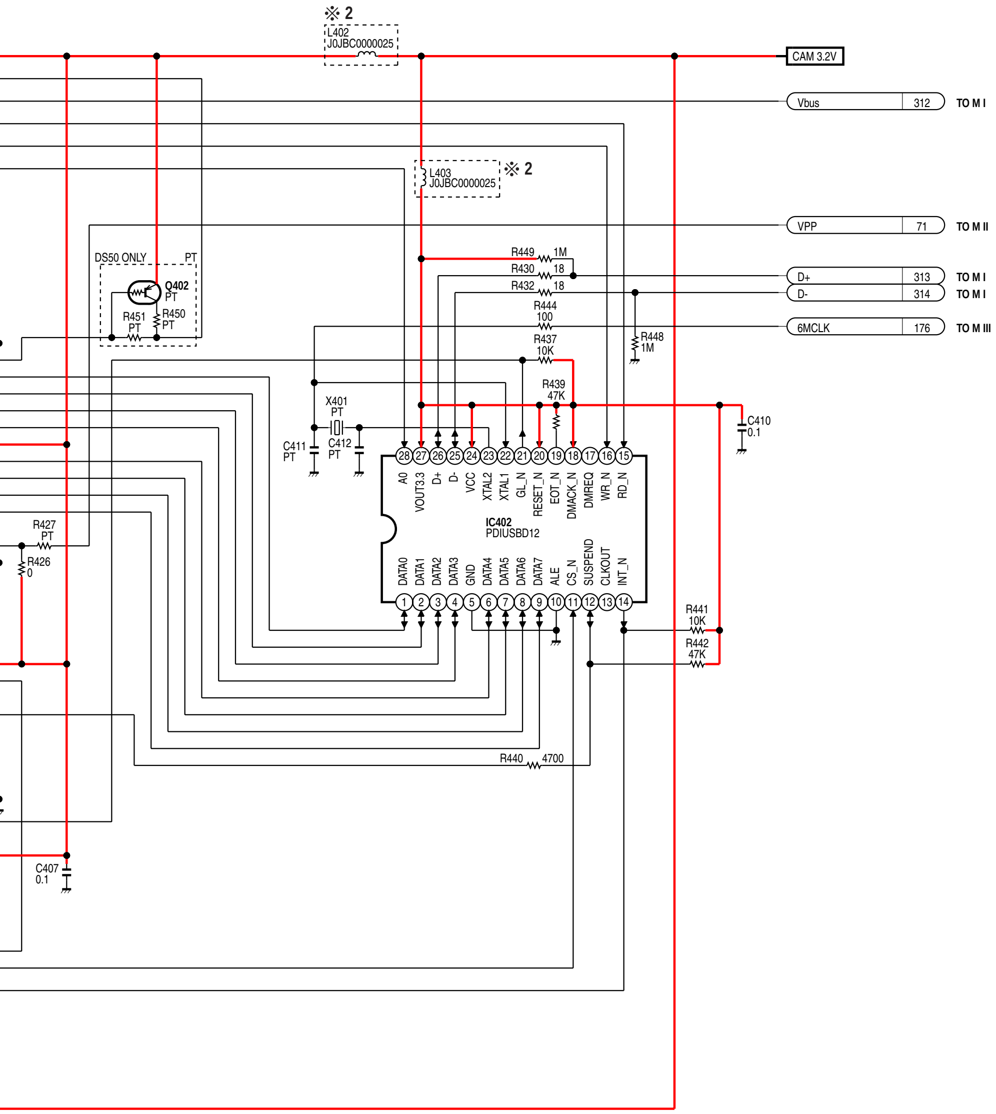
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


REC VIDEO SIGNAL
PB VIDEO SIGNAL
TO M I 304 CARD_LED
TO M III 183 ADCLK2
TO M II 74 MMOD1
TO M II 73 MMOD0
TO M II 52 M_RESET
TO M II 72 EXMOD1
TO M III 142 CAMVD
TO M V 25 FRP
TO M II 149 DSC_CONT
TO M II 147 DSC_DI
TO M II 148 DSC_DO
TO M II 146 DSC_CLK
TO M II 53 DSC_CONT3
TO M I 305 CD/DAT3
TO M I 306 SD_IN_L
TO M I 307 SD_WP_N
TO M I 308 CMD
TO M I 309 SD_DATA
TO M I 310 SD_CLK
TO M I 311 SD_VDD
R423 10K
C406 0.1
R414 4700
R416 PT
R415 1K
C403 0.1
R412 PT
R413 470
C401 0.1
R418 6800
R420 10K
R419 PT
R421 470
R404 100
R402 100
R403 1K
R417 PT
R422 47K
R447 2200
R445 10K
R446 10K
Q401 2SD2216
R424 47K
R425 10K
C405 0.1
C404 10/6.3V
C407 0.1
R427 PT
R426 0
DS50 ONLY
PT
Q402 PT
R451 PT
R450 PT
R409 0
R401 1K
R443 1K
R407 0
R405 0
R411 0
R406 10K
R408 47K
R410 10K
L401 22U
C402 10/6.3V
IC401
MN103001GEA1
25 CKSEL
24 USB_A0
23 PA1
22 PA2
21 VSS
20 PA3
19 PA4
18 PA5
17 PA6
16 PA7
15 VDD
14 PB0
13 PB1
12 PB2
11 PB3
10 PB4
9 VSS
8 PB5
7 PB6
6 PB7
5 MMC_CS
4 PC1
3 VDD
2 PC2
1 PC3
26 PVSS
27 PVDD
28 MMOD1/SCLK
29 MMOD0/SDATA
30 /RST
31 OSCO
32 OSCI
33 VDD
34 SYSCLK
35 VSS
36 P96
37 Vbus(USB5V)
38 P94
39 USB/WR_N
40 USB/RD_N
41 VDD
42 EXMOD1
43 EXMOD0
44 AVSS
45 USB/INT_N
46 VD
47 DSC_CONT
48 MMC_CD
49 VREFH
50 AVDD
51 P73/CS3
52 USB/CS_N
53 P71/CS1
54 VDD
55 P70/CS0
56 P63
57 FRP
58 SD_WP_N
59 P60
60 VSS
61 /NMIRQ
62 P55/SBO3
63 P54/SBI3
64 P53/SBT3
65 DSC_DI
66 DSC_DO
67 DSC_CLK
68 MMC_SDO
69 VDD
70 MMC_SDI
71 MMC_SCK
72 VSS
73 P42
74 P41
75 P40
100 P00
99 P01
98 VSS
97 CARD_LED
96 USB/D0
95 USB/D1
94 USB/D2
93 USB/D3
92 VDD
91 USB/D4
90 USB/D5
89 USB/D6
88 USB/D7
87 P20
86 VPP
85 VSS
84 P21
83 P22
82 P23
81 P24
80 P25
79 VDD
78 DSC_CONT3
77 DSC_CONT2
76 USB/SUSPEND

chase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

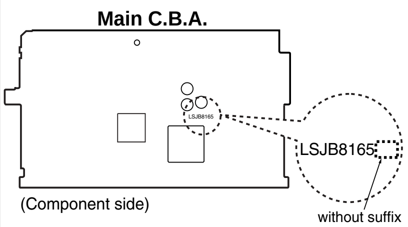
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.


※ 2
L402
J0JBC0000025
CAM 3.2V
Vbus
312
TO M I
L403
J0JBC0000025
※ 2
VPP
71
TO M II
DS50 ONLY
PT
Q402
PT
R451
PT
R450
PT
R449 1M
R430 18
R432 18
D+
313
TO M I
D-
314
TO M I
R444
100
6MCLK
176
TO M III
R437
10K
R448
1M
R439
47K
X401
PT
C411
PT
C412
PT
C410
0.1
A0
VOUT3.3
D+
D-
VCC
XTAL2
XTAL1
GL_N
RESET_N
EOT_N
DMACK_N
DMREQ
WR_N
RD_N
IC402
PDIUSBD12
DATA0
DATA1
DATA2
DATA3
GND
DATA4
DATA5
DATA6
DATA7
ALE
CS_N
SUSPEND
CLKOUT
INT_N
R427
PT
R426
0
R441
10K
R442
47K
R440 4700
C407
0.1

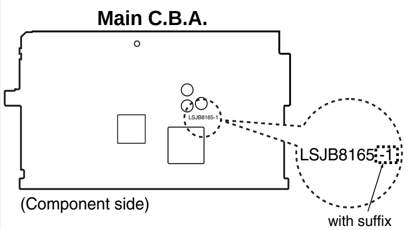
※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)

Early Products


Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix

Later Products


Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

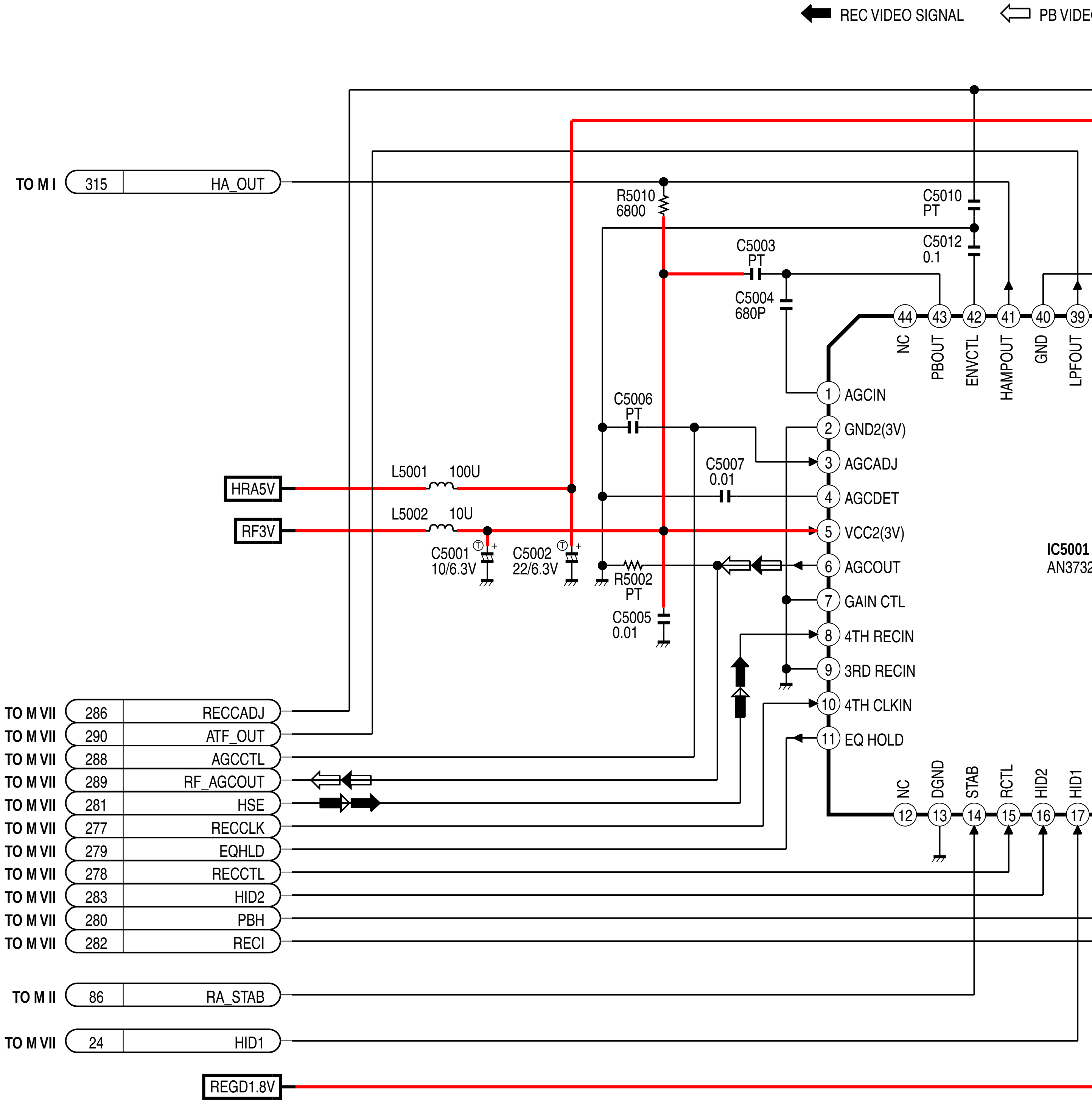
Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LINK TO VOLTAGE CHART

LSJB8165
MAIN XI SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XII SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.



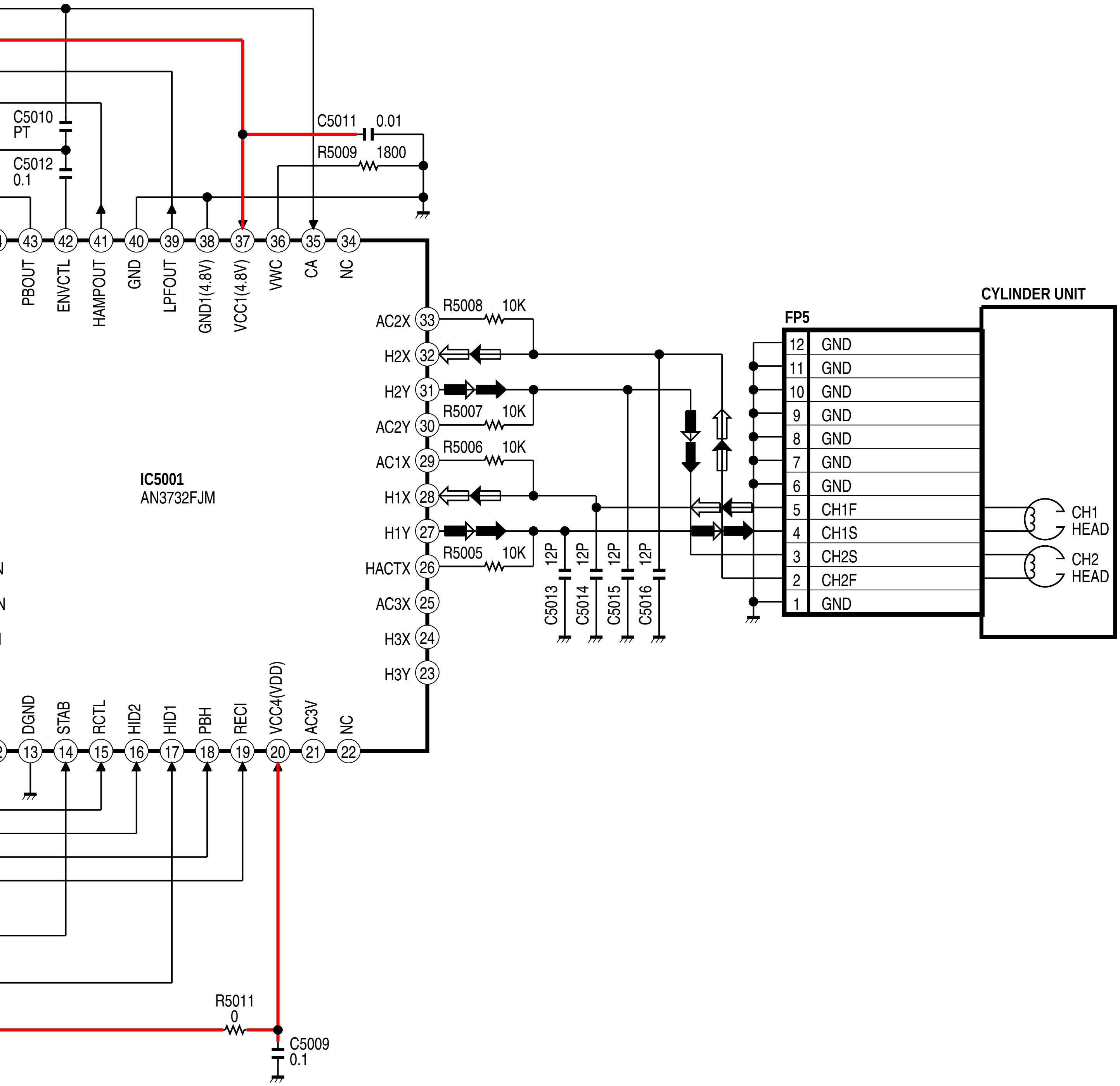
REC VIDEO SIGNAL
PB VIDE
TO M I
315
HA_OUT
R5010
6800
C5010
PT
C5012
0.1
C5003
PT
C5004
680P
44
43
42
41
40
39
NC
PBOUT
ENVCTL
HAMPOUT
GND
LPFOUT
1 AGCIN
2 GND2(3V)
3 AGCADJ
4 AGCDET
5 VCC2(3V)
6 AGCOUT
7 GAIN CTL
8 4TH RECIN
9 3RD RECIN
10 4TH CLKIN
11 EQ HOLD
C5006
PT
C5007
0.01
IC5001
AN3732
HRA5V
RF3V
L5001
100U
L5002
10U
C5001
10/6.3V
C5002
22/6.3V
R5002
PT
C5005
0.01
NC
DGND
STAB
RCTL
HID2
HID1
12
13
14
15
16
17
TO M VII
286
RECCADJ
TO M VII
290
ATF_OUT
TO M VII
288
AGCCTL
TO M VII
289
RF_AGCOUT
TO M VII
281
HSE
TO M VII
277
RECCLK
TO M VII
279
EQHLD
TO M VII
278
RECCTL
TO M VII
283
HID2
TO M VII
280
PBH
TO M VII
282
RECI
TO M II
86
RA_STAB
TO M VII
24
HID1
REGD1.8V

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

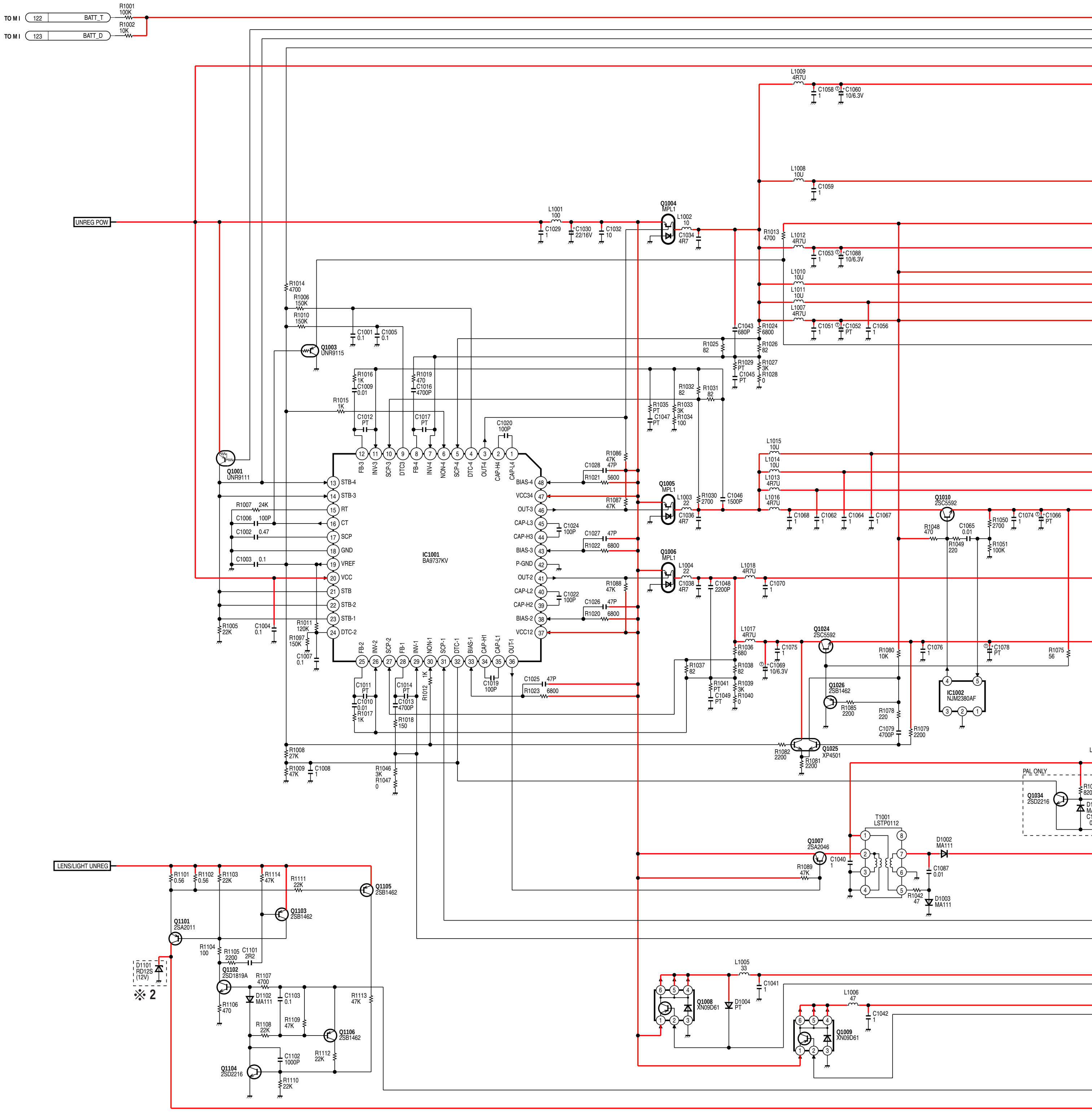
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

SIGNAL ⇦ PB VIDEO SIGNAL ⬅ REC AUDIO SIGNAL ⇦ PB AUDIO SIGNAL


C5010
PT
C5012
0.1
C5011 0.01
R5009 1800
43 PBOUT
42 ENVCTL
41 HAMPOUT
40 GND
39 LPFOUT
38 GND1(4.8V)
37 VCC1(4.8V)
36 VWC
35 CA
34 NC
R5008 10K
AC2X 33
H2X 32
H2Y 31
R5007 10K
AC2Y 30
R5006 10K
AC1X 29
IC5001
AN3732FJM
H1X 28
H1Y 27
R5005 10K
HACTX 26
AC3X 25
H3X 24
H3Y 23
12P C5013
12P C5014
12P C5015
12P C5016
FP5
CYLINDER UNIT
12 GND
11 GND
10 GND
9 GND
8 GND
7 GND
6 GND
5 CH1F
4 CH1S
3 CH2S
2 CH2F
1 GND
CH1 HEAD
CH2 HEAD
13 DGND
14 STAB
15 RCTL
16 HID2
17 HID1
18 PBH
19 RECI
20 VCC4(VDD)
21 AC3V
22 NC
R5011
0
C5009
0.1

MAIN XIII SCHEMATIC DIAGRAM

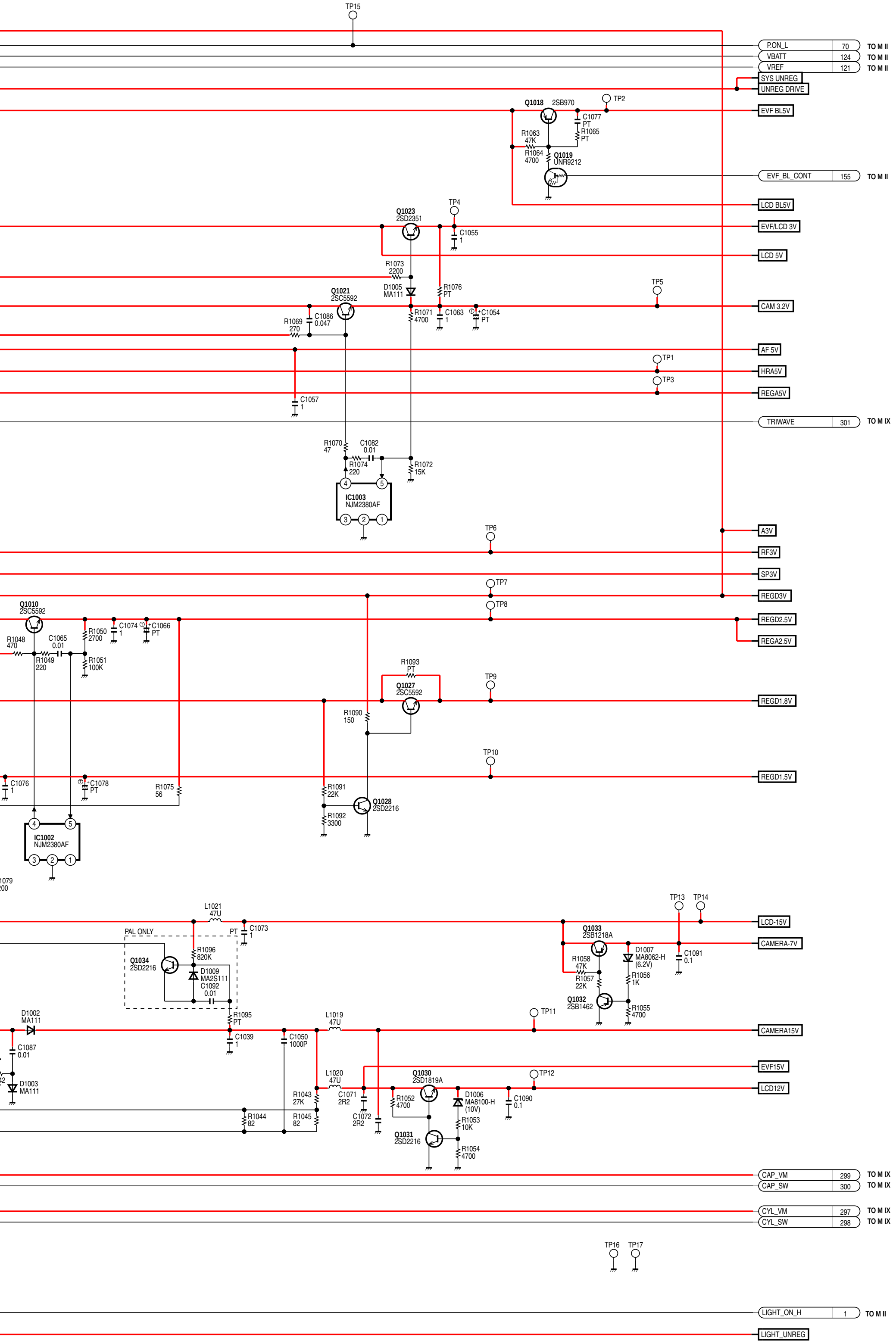
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


TO M I
122
BATT_T
TO M I
123
BATT_D
R1001
100K
R1002
10K
UNREG POW
L1009
4R7U
C1058
1
C1060
10/6.3V
L1008
10U
C1059
1
L1001
100
C1029
1
C1030
22/16V
C1032
10
Q1004
MPL1
L1002
10
C1034
4R7
R1013
4700
L1012
4R7U
C1053
1
C1088
10/6.3V
L1010
10U
L1011
10U
L1007
4R7U
C1051
1
C1052
PT
C1056
1
R1014
4700
R1006
150K
R1010
150K
C1001
0.1
C1005
0.1
Q1003
UNR9115
C1043
680P
R1024
6800
R1025
82
R1026
82
R1029
PT
R1027
3K
C1045
PT
R1028
0
R1016
1K
C1009
0.01
R1019
470
C1016
4700P
R1015
1K
C1012
PT
C1017
PT
C1020
100P
R1032
82
R1031
82
R1035
PT
R1033
3K
C1047
PT
R1034
100
L1015
10U
L1014
10U
L1013
4R7U
L1016
4R7U
R1086
47K
C1028
47P
R1021
5600
R1087
47K
Q1005
MPL1
L1003
22
R1030
2700
C1046
1500P
C1036
4R7
C1068
1
C1062
1
C1064
1
C1067
1
Q1010
2SC5592
R1048
470
C1065
0.01
R1050
2700
C1074
1
C1066
PT
R1049
220
R1051
100K
Q1001
UNR9111
12
11
10
9
8
7
6
5
4
3
2
1
FB-3
INV-3
SCP-3
DTC3
FB-4
INV-4
NON-4
SCP-4
DTC-4
OUT-4
CAP-H4
CAP-L4
13 STB-4
14 STB-3
15 RT
16 CT
17 SCP
18 GND
19 VREF
20 VCC
21 STB
22 STB-2
23 STB-1
24 DTC-2
BIAS-4 48
VCC34 47
OUT-3 46
CAP-L3 45
CAP-H3 44
BIAS-3 43
P-GND 42
OUT-2 41
CAP-L2 40
CAP-H2 39
BIAS-2 38
VCC12 37
R1007
24K
C1006
100P
C1002
0.47
C1003
0.1
IC1001
BA9737KV
C1024
100P
C1027
47P
R1022
6800
Q1006
MPL1
L1004
22
L1018
4R7U
C1038
4R7
C1048
2200P
C1070
1
R1088
47K
C1022
100P
C1026
47P
R1020
6800
R1005
22K
C1004
0.1
R1011
120K
R1097
150K
C1007
0.1
FB-2
INV-2
SCP-2
FB-1
INV-1
NON-1
SCP-1
DTC-1
BIAS-1
CAP-H1
CAP-L1
OUT-1
25
26
27
28
29
30
31
32
33
34
35
36
C1011
PT
C1010
0.01
R1017
1K
C1014
PT
C1013
4700P
R1018
150
R1012
1K
C1025
47P
C1019
100P
R1023
6800
R1037
82
L1017
4R7U
R1036
680
R1038
82
C1075
1
C1069
10/6.3V
R1041
PT
R1039
3K
C1049
PT
R1040
0
Q1024
2SC5592
R1080
10K
C1076
1
C1078
PT
R1075
56
Q1026
2SB1462
R1085
2200
R1078
220
IC1002
NJM2380AF
4
5
3
2
1
C1079
4700P
R1079
2200
R1082
2200
Q1025
XP4501
R1081
2200
R1008
27K
R1009
47K
C1008
1
R1046
3K
R1047
0
PAL ONLY
Q1034
2SD2216
T1001
LSTP0112
1
2
3
4
8
7
6
5
D1002
MA111
Q1007
2SA2046
C1040
1
C1087
0.01
R1089
47K
R1042
47
D1003
MA111
LENS/LIGHT UNREG
R1101
0.56
R1102
0.56
R1103
22K
R1114
47K
R1111
22K
Q1105
2SB1462
Q1103
2SB1462
Q1101
2SA2011
R1104
100
R1105
2200
C1101
2R2
D1101
RD12S
(12V)
※2
Q1102
2SD1819A
R1107
4700
R1106
470
D1102
MA111
C1103
0.1
R1113
47K
R1108
22K
R1109
47K
Q1106
2SB1462
C1102
1000P
R1112
22K
Q1104
2SD2216
R1110
22K
L1005
33
C1041
1
Q1008
XN09D61
D1004
PT
L1006
47
C1042
1
Q1009
XN09D61

chase order of the parts,
e part number listed in the parts list.
art number on this diagram.

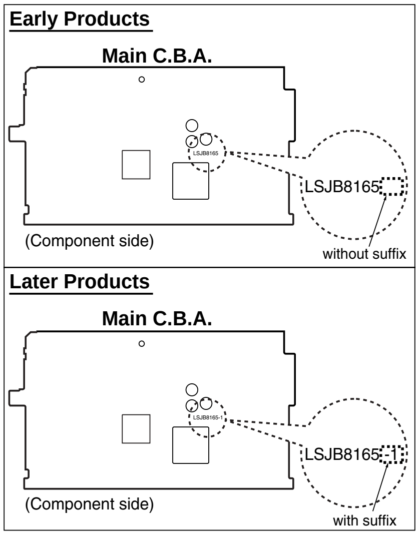
NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.


TP15
P.ON_L 70 TO M II
VBATT 124 TO M II
VREF 121 TO M II
SYS UNREG
UNREG DRIVE
Q1018 2SB970
TP2
C1077 PT
R1065 PT
R1063 47K
R1064 4700
Q1019 UNR9212
EVF BL5V
EVF_BL_CONT 155 TO M II
LCD BL5V
TP4
Q1023 2SD2351
C1055 1
EVF/LCD 3V
LCD 5V
R1073 2200
D1005 MA111
R1076 PT
TP5
Q1021 2SC5592
R1069 270
C1086 0.047
R1071 4700
C1063 1
C1054 PT
CAM 3.2V
AF 5V
TP1
HRA5V
TP3
REGA5V
C1057 1
TRIWAVE 301 TO M IX
R1070 47
C1082 0.01
R1074 220
R1072 15K
IC1003 NJM2380AF
TP6
A3V
RF3V
SP3V
TP7
REGD3V
TP8
Q1010 2SC5592
R1048 470
C1065 0.01
R1049 220
R1050 2700
R1051 100K
C1074 1
C1066 PT
REGD2.5V
REGA2.5V
R1093 PT
Q1027 2SC5592
TP9
R1090 150
REGD1.8V
TP10
C1076 1
C1078 PT
R1075 56
R1091 22K
R1092 3300
Q1028 2SD2216
REGD1.5V
IC1002 NJM2380AF
L1021 47U
PAL ONLY
PT
C1073 1
Q1034 2SD2216
R1096 820K
D1009 MA2S111
C1092 0.01
TP13
TP14
Q1033 2SB1218A
LCD-15V
CAMERA-7V
D1007 MA8062-H (6.2V)
C1091 0.1
R1058 47K
R1057 22K
R1056 1K
Q1032 2SB1462
R1055 4700
TP11
D1002 MA111
R1095 PT
C1039 1
C1050 1000P
L1019 47U
CAMERA15V
C1087 0.01
D1003 MA111
L1020 47U
Q1030 2SD1819A
TP12
EVF15V
LCD12V
R1043 27K
C1071 2R2
R1052 4700
D1006 MA8100-H (10V)
C1090 0.1
R1044 82
R1045 82
C1072 2R2
R1053 10K
Q1031 2SD2216
R1054 4700
CAP_VM 299 TO M IX
CAP_SW 300 TO M IX
CYL_VM 297 TO M IX
CYL_SW 298 TO M IX
TP16
TP17
LIGHT_ON_H 1 TO M II
LIGHT_UNREG

※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)


Early Products
Main C.B.A.
LSJB8165
LSJB8165
(Component side)
without suffix
Later Products
Main C.B.A.
LSJB8165-1
LSJB8165-1
(Component side)
with suffix

For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

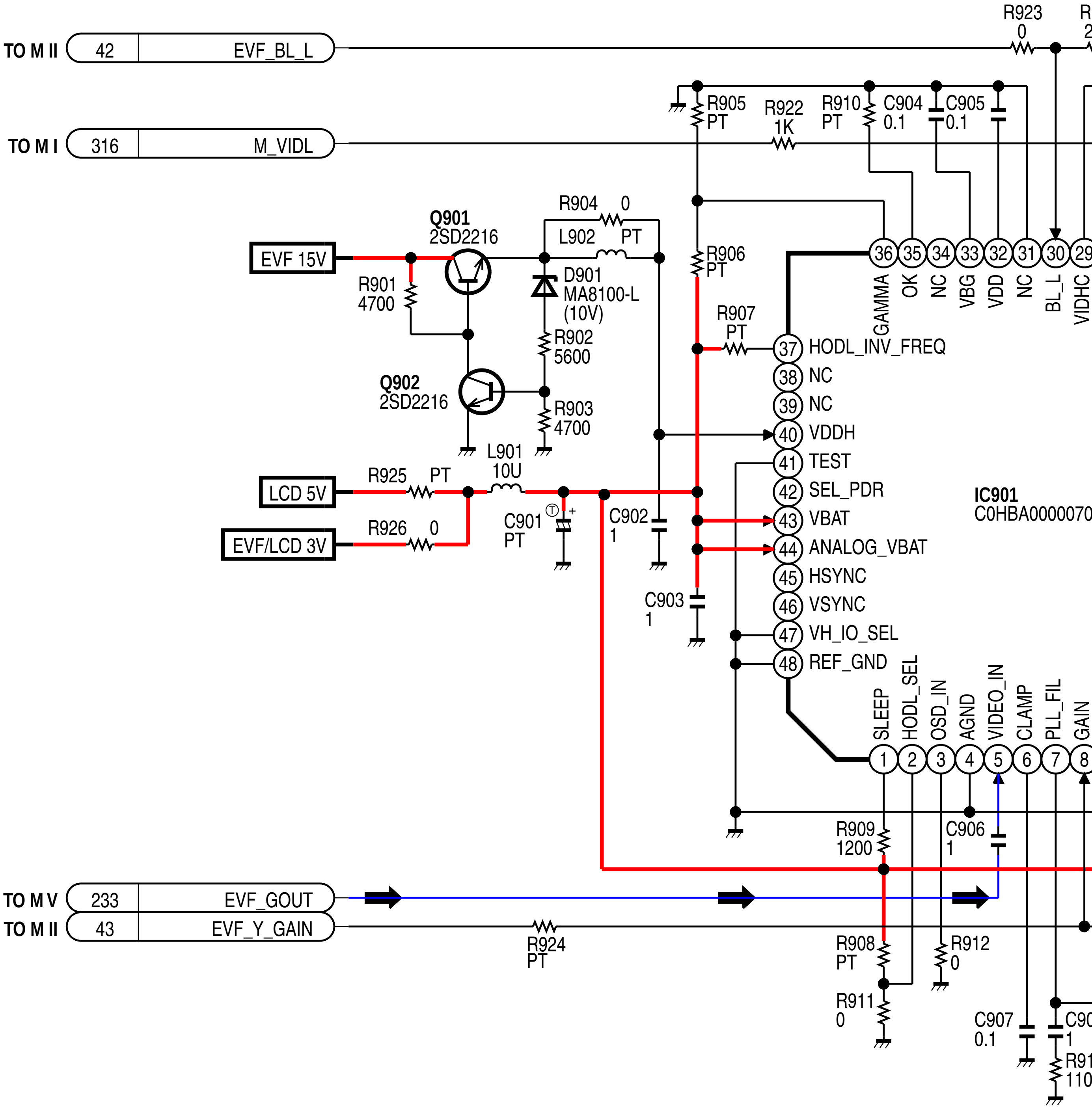
Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

LINK TO VOLTAGE CHART

LSJB8165
MAIN XIII SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XIV SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.

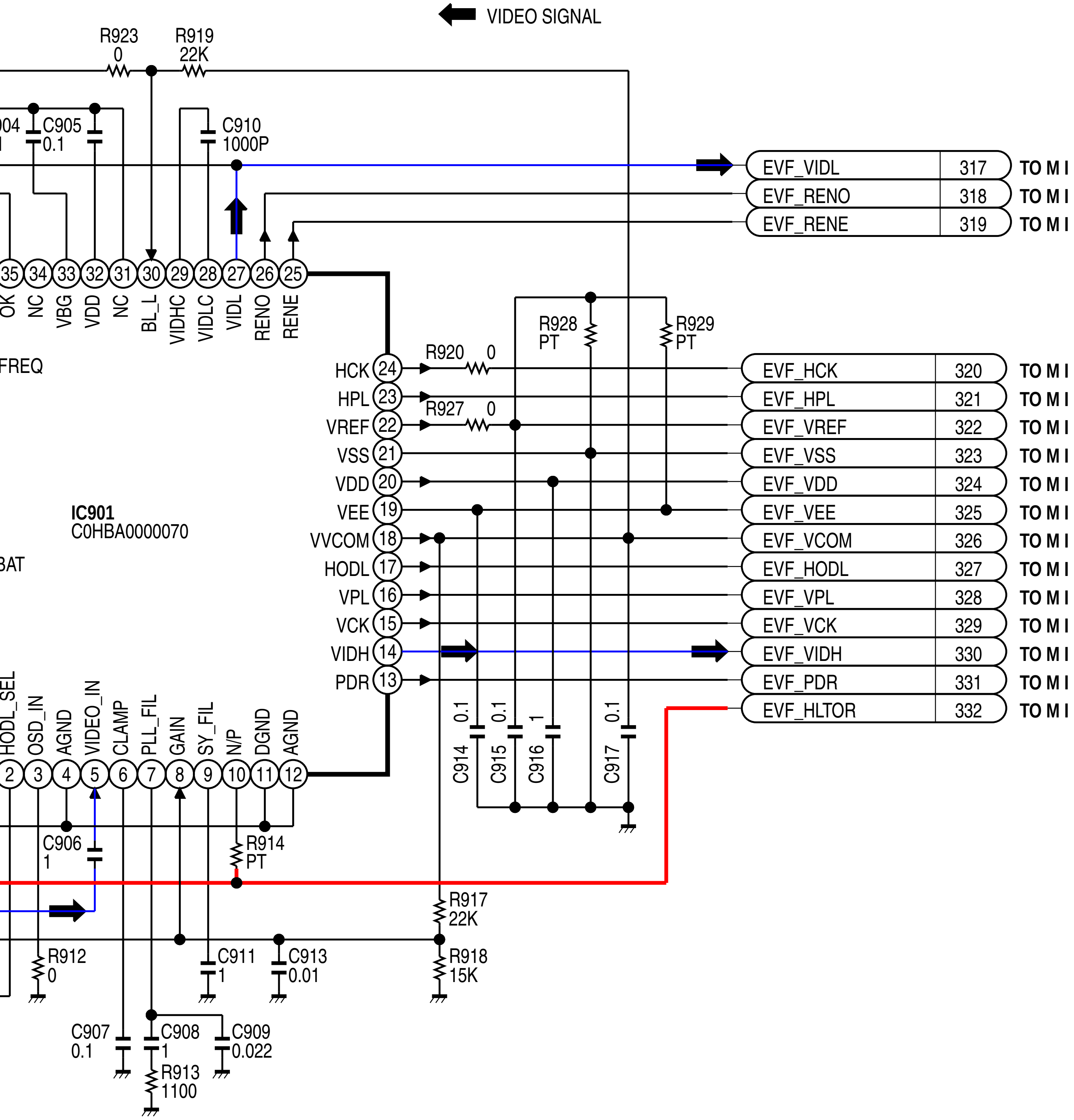


TO M II
42
EVF_BL_L
TO M I
316
M_VIDL
TO M V
233
EVF_GOUT
TO M II
43
EVF_Y_GAIN
EVF 15V
LCD 5V
EVF/LCD 3V
R923
0
R905
PT
R922
1K
R910
PT
C904
0.1
C905
0.1
R904
0
Q901
2SD2216
L902
PT
D901
MA8100-L
(10V)
R901
4700
R902
5600
Q902
2SD2216
R903
4700
R906
PT
R907
PT
R925
PT
L901
10U
R926
0
C901
PT
C902
1
C903
1
IC901
C0HBA0000070
36 GAMMA
35 OK
34 NC
33 VBG
32 VDD
31 NC
30 BL_L
29 VIDHC
37 HODL_INV_FREQ
38 NC
39 NC
40 VDDH
41 TEST
42 SEL_PDR
43 VBAT
44 ANALOG_VBAT
45 HSYNC
46 VSYNC
47 VH_IO_SEL
48 REF_GND
1 SLEEP
2 HODL_SEL
3 OSD_IN
4 AGND
5 VIDEO_IN
6 CLAMP
7 PLL_FIL
8 GAIN
R909
1200
C906
1
R924
PT
R908
PT
R912
0
R911
0
C907
0.1

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

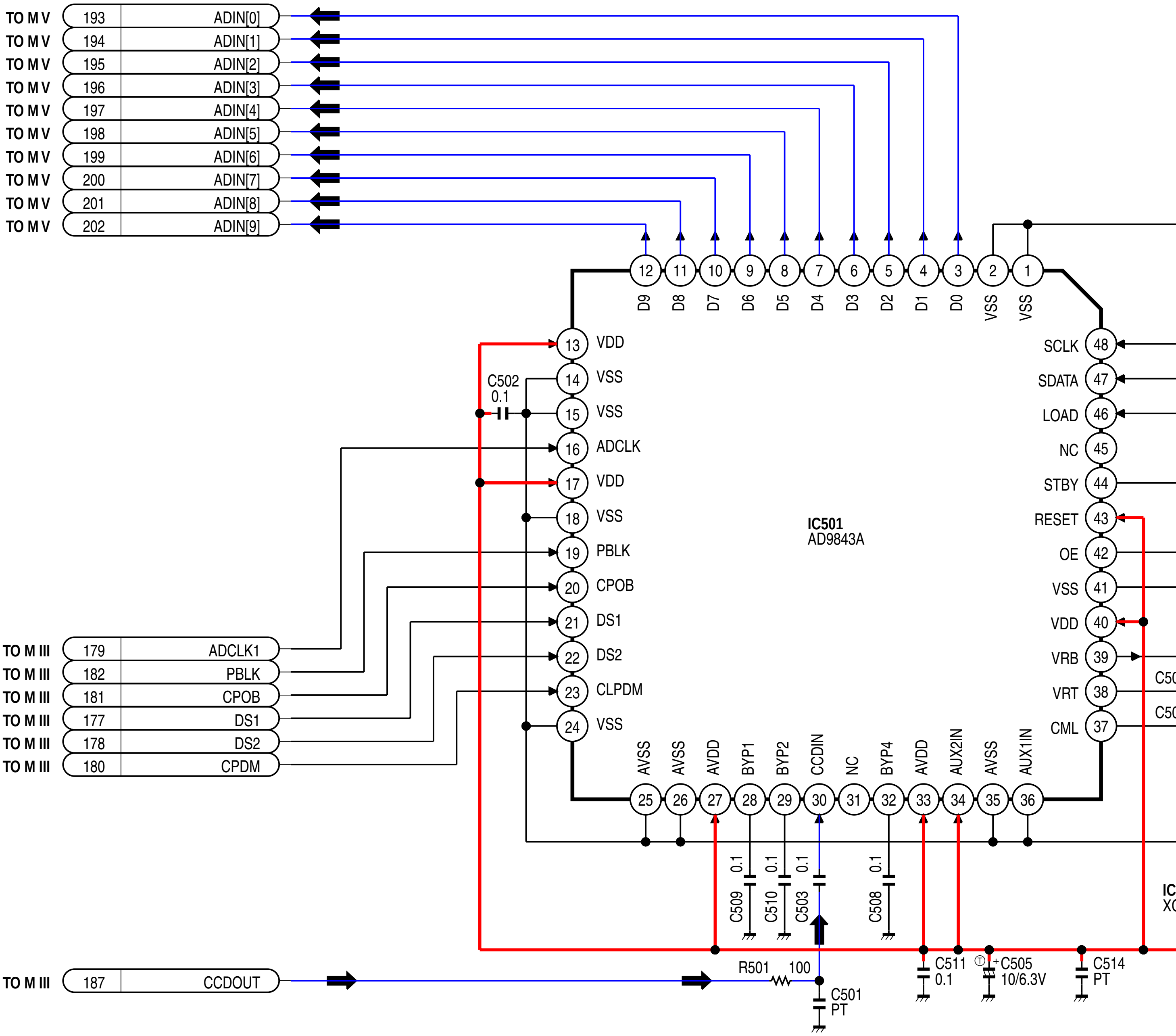

VIDEO SIGNAL
R923
0
R919
22K
04
C905
0.1
C910
1000P
EVF_VIDL 317 TO M I
EVF_RENO 318 TO M I
EVF_RENE 319 TO M I
35 34 33 32 31 30 29 28 27 26 25
OK NC VBG VDD NC BL_L VIDHC VIDLC VIDL RENO RENE
FREQ
R928
PT
R929
PT
R920 0
R927 0
HCK 24
HPL 23
VREF 22
VSS 21
VDD 20
VEE 19
VVCOM 18
HODL 17
VPL 16
VCK 15
VIDH 14
PDR 13
IC901
C0HBA0000070
BAT
EVF_HCK 320 TO M I
EVF_HPL 321 TO M I
EVF_VREF 322 TO M I
EVF_VSS 323 TO M I
EVF_VDD 324 TO M I
EVF_VEE 325 TO M I
EVF_VCOM 326 TO M I
EVF_HODL 327 TO M I
EVF_VPL 328 TO M I
EVF_VCK 329 TO M I
EVF_VIDH 330 TO M I
EVF_PDR 331 TO M I
EVF_HLTOR 332 TO M I
C914 0.1
C915 0.1
C916 1
C917 0.1
HODL_SEL OSD_IN AGND VIDEO_IN CLAMP PLL_FIL GAIN SY_FIL N/P DGND AGND
2 3 4 5 6 7 8 9 10 11 12
C906
1
R914
PT
R917
22K
R918
15K
R912
0
C911
1
C913
0.01
C907
0.1
C908
1
C909
0.022
R913
1100

LINK TO VOLTAGE CHART

LSJB8165
MAIN XIV SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

MAIN XV SCHEMATIC DIAGRAM

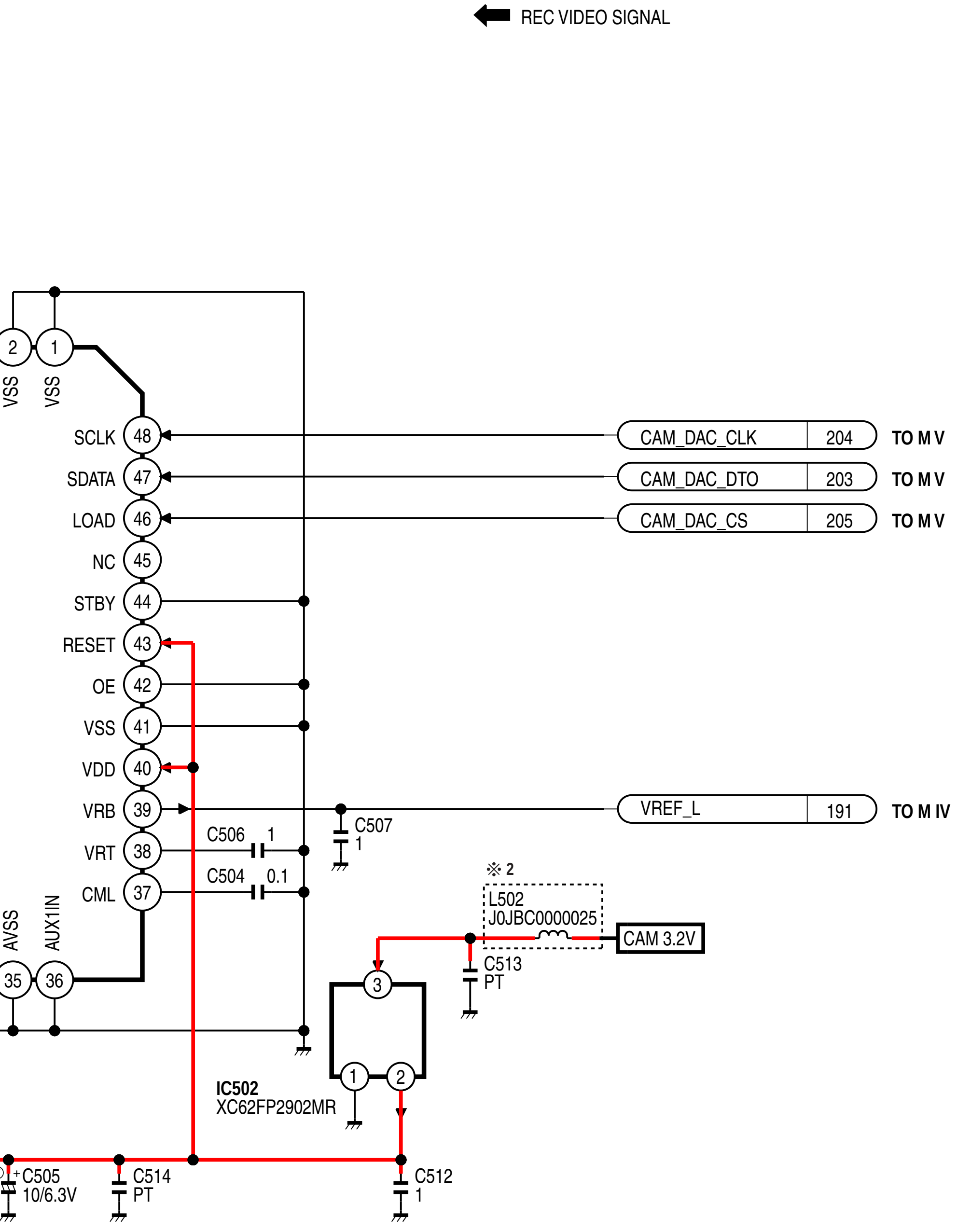
NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


TO M V 193 ADIN[0]
TO M V 194 ADIN[1]
TO M V 195 ADIN[2]
TO M V 196 ADIN[3]
TO M V 197 ADIN[4]
TO M V 198 ADIN[5]
TO M V 199 ADIN[6]
TO M V 200 ADIN[7]
TO M V 201 ADIN[8]
TO M V 202 ADIN[9]
12 D9
11 D8
10 D7
9 D6
8 D5
7 D4
6 D3
5 D2
4 D1
3 D0
2 VSS
1 VSS
13 VDD
14 VSS
15 VSS
16 ADCLK
17 VDD
18 VSS
19 PBLK
20 CPOB
21 DS1
22 DS2
23 CLPDM
24 VSS
25 AVSS
26 AVSS
27 AVDD
28 BYP1
29 BYP2
30 CCDIN
31 NC
32 BYP4
33 AVDD
34 AUX2IN
35 AVSS
36 AUX1IN
37 CML
38 VRT
39 VRB
40 VDD
41 VSS
42 OE
43 RESET
44 STBY
45 NC
46 LOAD
47 SDATA
48 SCLK
IC501
AD9843A
C502
0.1
TO M III 179 ADCLK1
TO M III 182 PBLK
TO M III 181 CPOB
TO M III 177 DS1
TO M III 178 DS2
TO M III 180 CPDM
C509 0.1
C510 0.1
C503 0.1
C508 0.1
TO M III 187 CCDOUT
R501 100
C501
PT
C511
0.1
C505
10/6.3V
C514
PT
C50
C50
IC
XC

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

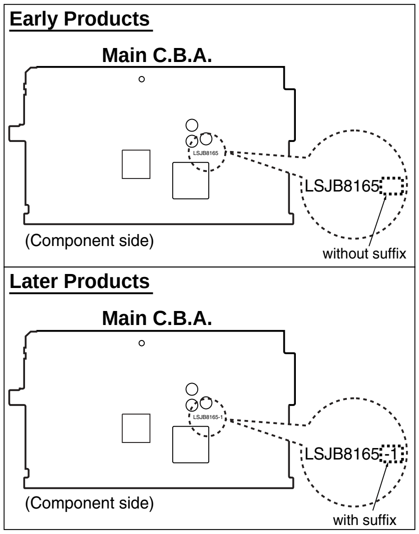
NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.



REC VIDEO SIGNAL
2
1
VSS
VSS
SCLK 48
SDATA 47
LOAD 46
NC 45
STBY 44
RESET 43
OE 42
VSS 41
VDD 40
VRB 39
VRT 38
CML 37
AVSS
AUX1IN
35
36
CAM_DAC_CLK 204 TO M V
CAM_DAC_DTO 203 TO M V
CAM_DAC_CS 205 TO M V
VREF_L 191 TO M IV
C506 1
C504 0.1
C507 1
※ 2
L502
J0JBC0000025
CAM 3.2V
C513
PT
3
1
2
IC502
XC62FP2902MR
C505 10/6.3V
C514 PT
C512 1

※ 2

D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402,L403, and L502 replacement note:
D1101, C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502 on Main C.B.A. have been changed on a running change basis. When servicing these parts, be sure to confirm whether the product is an early one or a later one by checking the part number suffix on Main C.B.A. as shown below.
In early products: LSJB8165 (without suffix)
In later products: LSJB8165-1 etc. (with suffix)



Early Products
Main C.B.A.
LSJB8165
(Component side)
without suffix
Later Products
Main C.B.A.
LSJB8165-1
(Component side)
with suffix

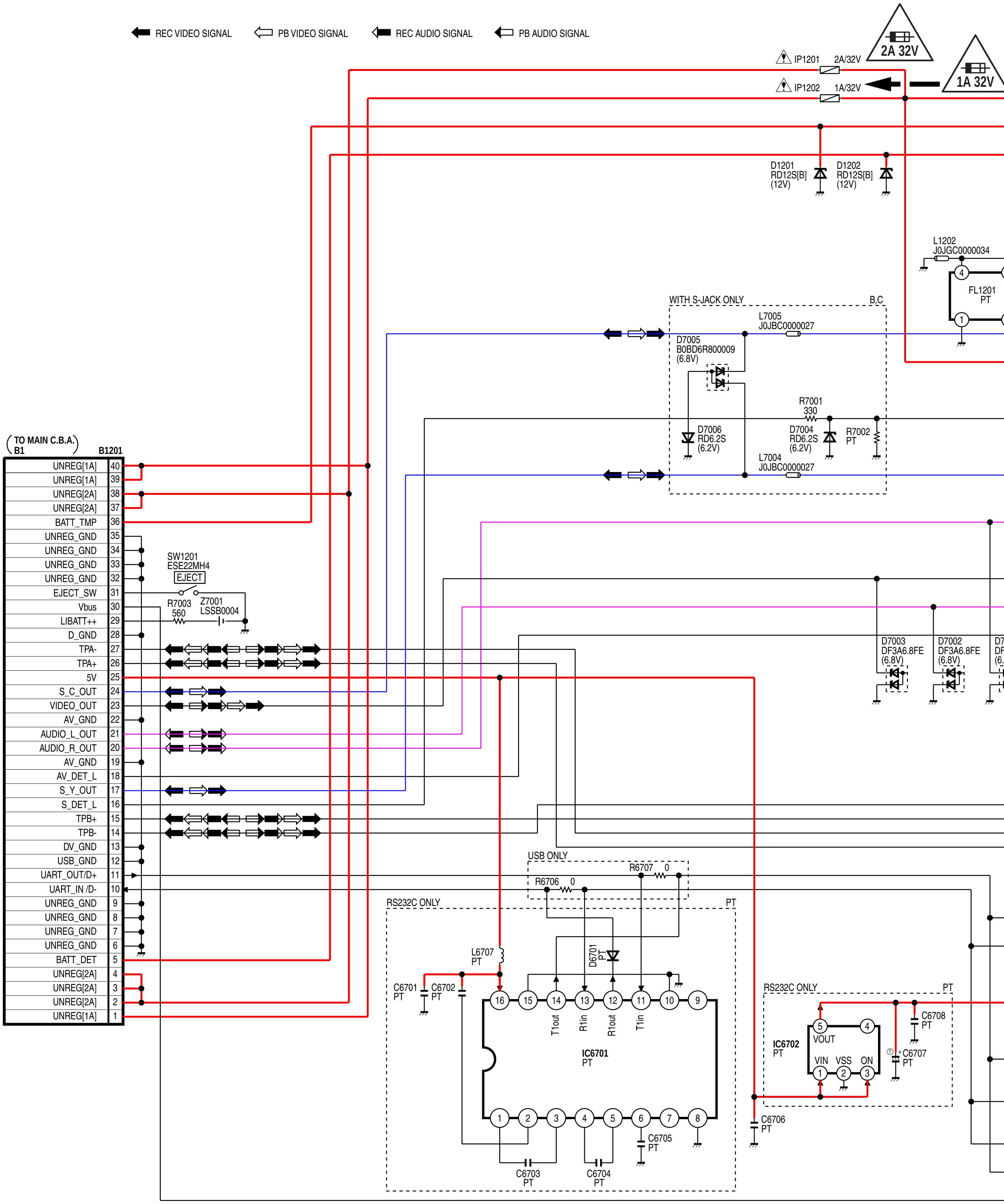
For C3001, C3004, C3012, C3107, C3110, C3115, L402, L403, and L502, the part number of the replacement parts are different for early products and later products as shown. When servicing these parts, be sure to replace with the proper parts.
Please note that D1101 has been deleted in later products.

Ref. No.	Part No.	
	Early Products	Later Products
D1101	RD12S-T1B	----------------------
C3001	VCUSQAV105ZF	ECJ2VF1C105Z
C3004	VCUSQAV105ZF	ECJ2VF1C105Z
C3012	VCUSQAV105ZF	ECJ2VF1C105Z
C3107	VCUSQAV105ZF	ECJ2VF1C105Z
C3110	VCUSQAV105ZF	ECJ2VF1C105Z
C3115	VCUSQAV105ZF	ECJ2VF1C105Z
L402	G1C100M00010	J0JBC0000025
L403	G1C100M00010	J0JBC0000025
L502	G1C100M00010	J0JBC0000025

7.3. REAR SCHEMATIC DIAGRAM

REAR SCHEMATIC DIAGRAM

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


REC VIDEO SIGNAL
PB VIDEO SIGNAL
REC AUDIO SIGNAL
PB AUDIO SIGNAL
2A 32V
1A 32V
IP1201 2A/32V
IP1202 1A/32V
D1201 RD12S[B] (12V)
D1202 RD12S[B] (12V)
L1202 J0JGC0000034
FL1201 PT
WITH S-JACK ONLY
B,C
L7005 J0JBC0000027
D7005 B0BD6R800009 (6.8V)
R7001 330
D7006 RD6.2S (6.2V)
D7004 RD6.2S (6.2V)
R7002 PT
L7004 J0JBC0000027
TO MAIN C.B.A. B1
B1201
UNREG[1A] 40
UNREG[1A] 39
UNREG[2A] 38
UNREG[2A] 37
BATT_TMP 36
UNREG_GND 35
UNREG_GND 34
UNREG_GND 33
UNREG_GND 32
EJECT_SW 31
Vbus 30
LIBATT++ 29
D_GND 28
TPA- 27
TPA+ 26
5V 25
S_C_OUT 24
VIDEO_OUT 23
AV_GND 22
AUDIO_L_OUT 21
AUDIO_R_OUT 20
AV_GND 19
AV_DET_L 18
S_Y_OUT 17
S_DET_L 16
TPB+ 15
TPB- 14
DV_GND 13
USB_GND 12
UART_OUT/D+ 11
UART_IN /D- 10
UNREG_GND 9
UNREG_GND 8
UNREG_GND 7
UNREG_GND 6
BATT_DET 5
UNREG[2A] 4
UNREG[2A] 3
UNREG[2A] 2
UNREG[1A] 1
SW1201 ESE22MH4
EJECT
R7003 560
Z7001 LSSB0004
D7003 DF3A6.8FE (6.8V)
D7002 DF3A6.8FE (6.8V)
USB ONLY
R6707 0
R6706 0
RS232C ONLY
PT
L6707 PT
D6701 PT
C6701 PT
C6702 PT
16 15 14 13 12 11 10 9
T1out R1in R1out T1in
IC6701 PT
1 2 3 4 5 6 7 8
C6703 PT
C6704 PT
C6705 PT
C6706 PT
RS232C ONLY
PT
IC6702 PT
5 VOUT 4
VIN VSS ON
1 2 3
C6708 PT
C6707 PT

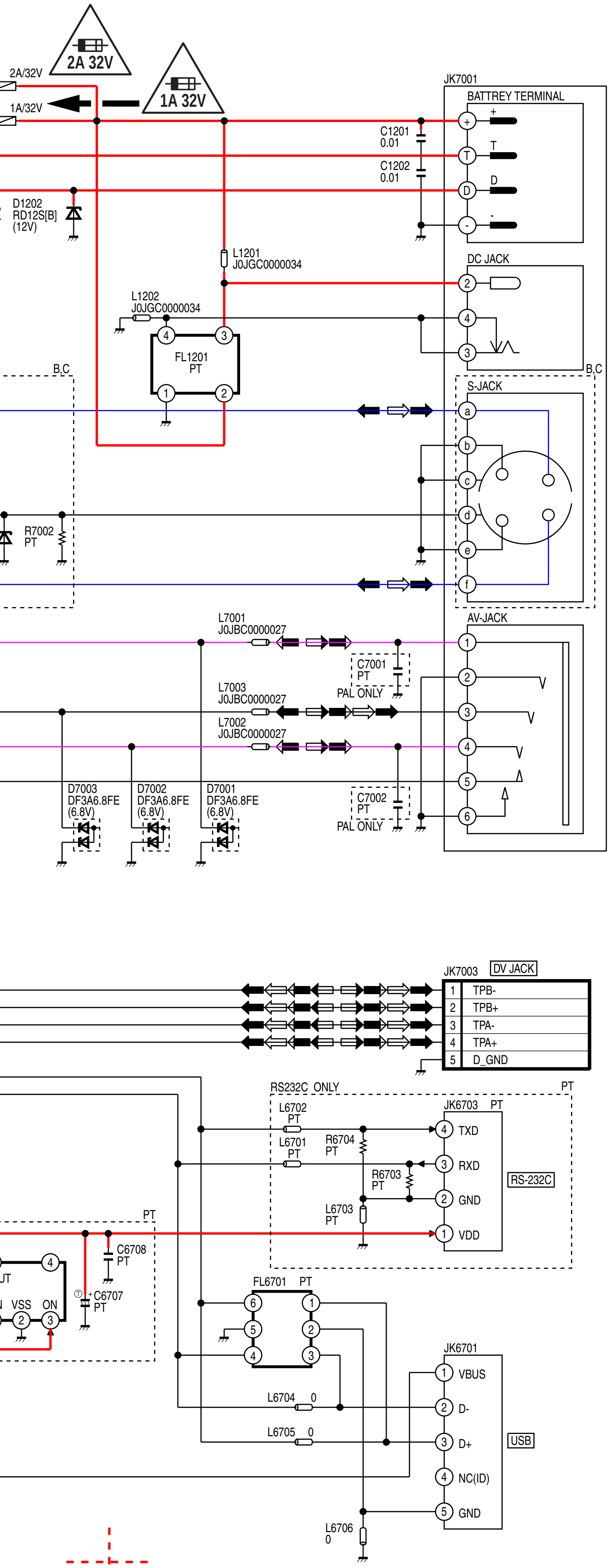
rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



2A 32V
1A 32V
2A/32V
1A/32V
JK7001
BATTREY TERMINAL
+
T
D
-
C1201
0.01
C1202
0.01
D1202
RD12S[B]
(12V)
L1201
J0JGC0000034
L1202
J0JGC0000034
DC JACK
2
4
3
FL1201
PT
1
B,C
S-JACK
a
b
c
d
e
f
R7002
PT
L7001
J0JBC0000027
AV-JACK
C7001
PT
PAL ONLY
L7003
J0JBC0000027
L7002
J0JBC0000027
5
6
D7003
DF3A6.8FE
(6.8V)
D7002
DF3A6.8FE
(6.8V)
D7001
DF3A6.8FE
(6.8V)
C7002
PT
PAL ONLY
JK7003
DV JACK
TPB-
TPB+
TPA-
TPA+
D_GND
RS232C ONLY
PT
L6702
PT
L6701
PT
R6704
PT
R6703
PT
L6703
PT
JK6703 PT
TXD
RXD
GND
VDD
RS-232C
C6708
PT
C6707
PT
UT
N VSS ON
FL6701 PT
JK6701
VBUS
D-
D+
NC(ID)
GND
USB
L6704 0
L6705 0
L6706
0

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 2A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 2A 32V

⚠ 2A 32V

CAUTION: FOR CONTINUED PROTECTION AGAINST FIRE HAZARD,
REPLACE ONLY WITH THE SAME TYPE 1A 32V FUSE.
ATTENTION: POUR UNE PROTECTION CONTINUE LES RISQUES
D' INCENDIE N' UTILISERQUE DES FUSIBLE DE MÉME
TYPE 1A 32V

⚠ 1A 32V

IMPORTANT SAFETY NOTICE:
COMPONENTS IDENTIFIED BY THE SIGN ⚠ HAVE
SPECIAL CHARACTERISTICS IMPORTANT FOR SAFETY.
WHEN REPLACING ANY OF THESE COMPONENTS,
USE ONLY THE SPECIFIED PARTS.

LSJB8183
REAR SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

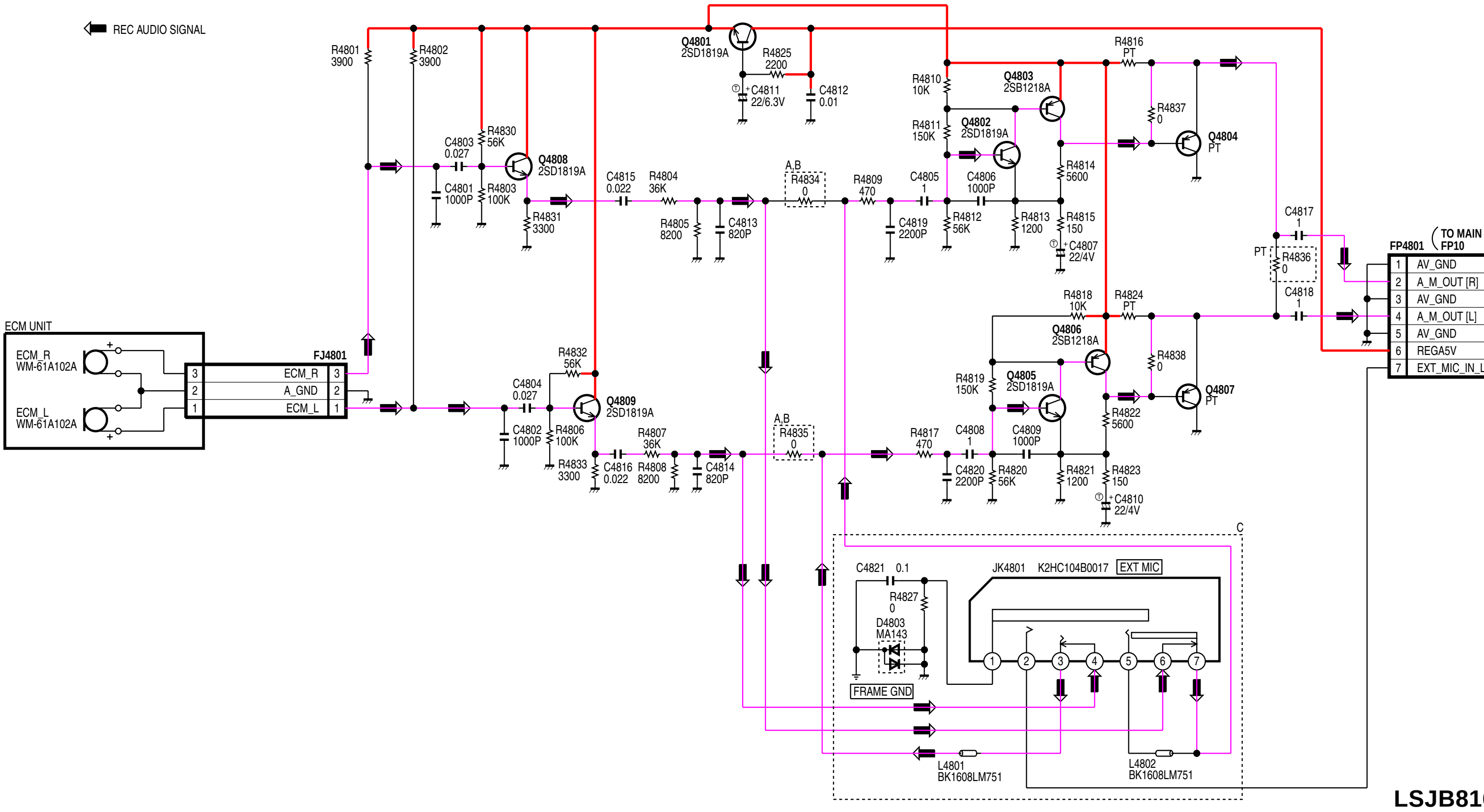
7.4. MICROPHONE/FRONT/EVF BACKLIGHT SCHEMATIC DIAGRAMS

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.

MICROPHONE SCHEMATIC DIAGRAM

“FOR REFERENCE ONLY”

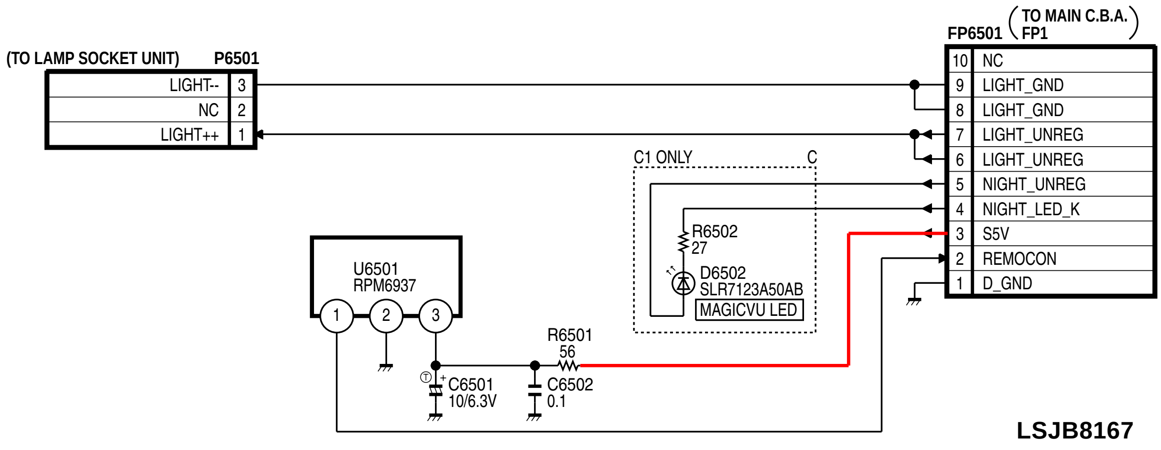
NOTE:
MICROPHONE C.B.A. IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


REC AUDIO SIGNAL
R4801 3900
R4802 3900
R4830 56K
C4803 0.027
C4801 1000P
R4803 100K
Q4808 2SD1819A
R4831 3300
C4815 0.022
R4804 36K
R4805 8200
C4813 820P
Q4801 2SD1819A
R4825 2200
C4811 22/6.3V
C4812 0.01
A,B R4834 0
R4809 470
C4805 1
C4819 2200P
R4810 10K
R4811 150K
Q4802 2SD1819A
Q4803 2SB1218A
C4806 1000P
R4812 56K
R4813 1200
R4814 5600
R4815 150
C4807 22/4V
R4816 PT
R4837 0
Q4804 PT
C4817 1
PT R4836 0
C4818 1
FP4801
TO MAIN FP10
1 AV_GND
2 A_M_OUT [R]
3 AV_GND
4 A_M_OUT [L]
5 AV_GND
6 REGA5V
7 EXT_MIC_IN_L
ECM UNIT
ECM_R WM-61A102A
ECM_L WM-61A102A
FJ4801
3 ECM_R 3
2 A_GND 2
1 ECM_L 1
R4832 56K
C4804 0.027
C4802 1000P
R4806 100K
Q4809 2SD1819A
R4833 3300
C4816 0.022
R4807 36K
R4808 8200
C4814 820P
A,B R4835 0
R4817 470
C4808 1
C4820 2200P
R4819 150K
Q4805 2SD1819A
R4820 56K
C4809 1000P
R4818 10K
Q4806 2SB1218A
R4824 PT
R4838 0
Q4807 PT
R4822 5600
R4821 1200
R4823 150
C4810 22/4V
C
C4821 0.1
R4827 0
D4803 MA143
FRAME GND
JK4801 K2HC104B0017 EXT MIC
1 2 3 4 5 6 7
L4801 BK1608LM751
L4802 BK1608LM751
LSJB81

FRONT SCHEMATIC DIAGRAM

“FOR REFERENCE ONLY”

NOTE:
FRONT C.B.A. IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


(TO LAMP SOCKET UNIT) P6501
LIGHT-- 3
NC 2
LIGHT++ 1
FP6501 TO MAIN C.B.A. FP1
10 NC
9 LIGHT_GND
8 LIGHT_GND
7 LIGHT_UNREG
6 LIGHT_UNREG
5 NIGHT_UNREG
4 NIGHT_LED_K
3 S5V
2 REMOCON
1 D_GND
C1 ONLY
C
R6502 27
D6502 SLR7123A50AB
MAGICVU LED
U6501 RPM6937
1 2 3
R6501 56
C6501 10/6.3V
C6502 0.1
LSJB8167

rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

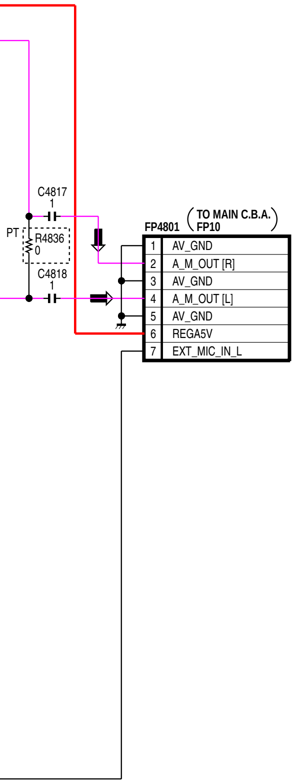
COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT

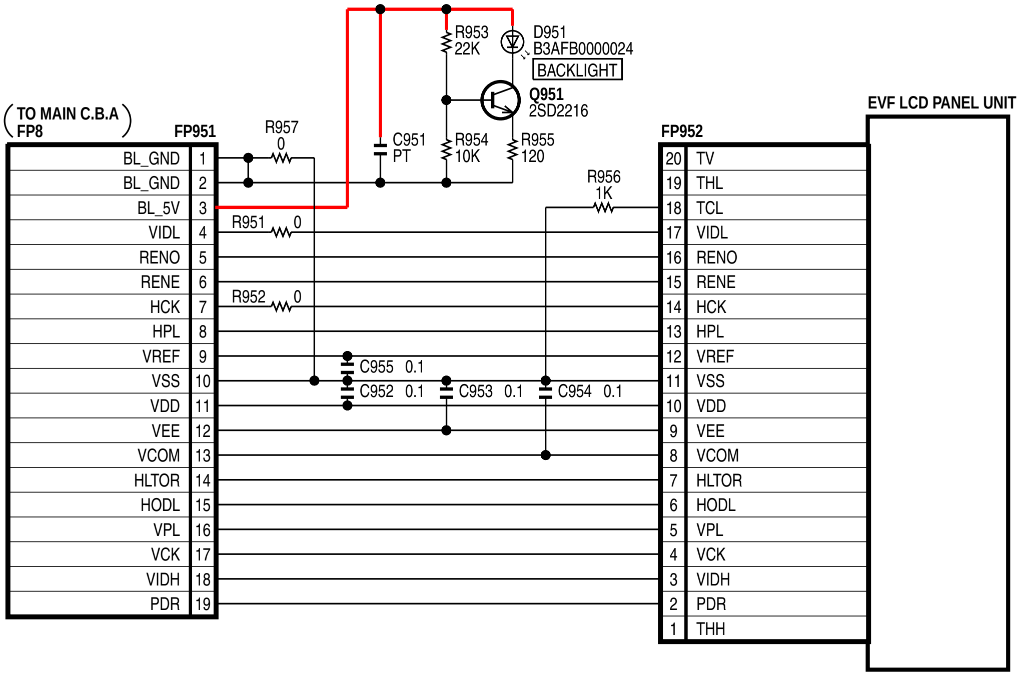
EVF BACKLIGHT SCHEMATIC DIAGRAM

“FOR REFERENCE ONLY”

NOTE:
EVF BACK LIGHT C.B.A. IS NOT SERVICEABLE AND IS
SUPPLIED AS A UNIT ONLY FOR REPLACEMENT.


C4817
1
PT
R4836
0
C4818
1
FP4801
TO MAIN C.B.A.
FP10
1 AV_GND
2 A_M_OUT [R]
3 AV_GND
4 A_M_OUT [L]
5 AV_GND
6 REGA5V
7 EXT_MIC_IN_L

LSJB8168

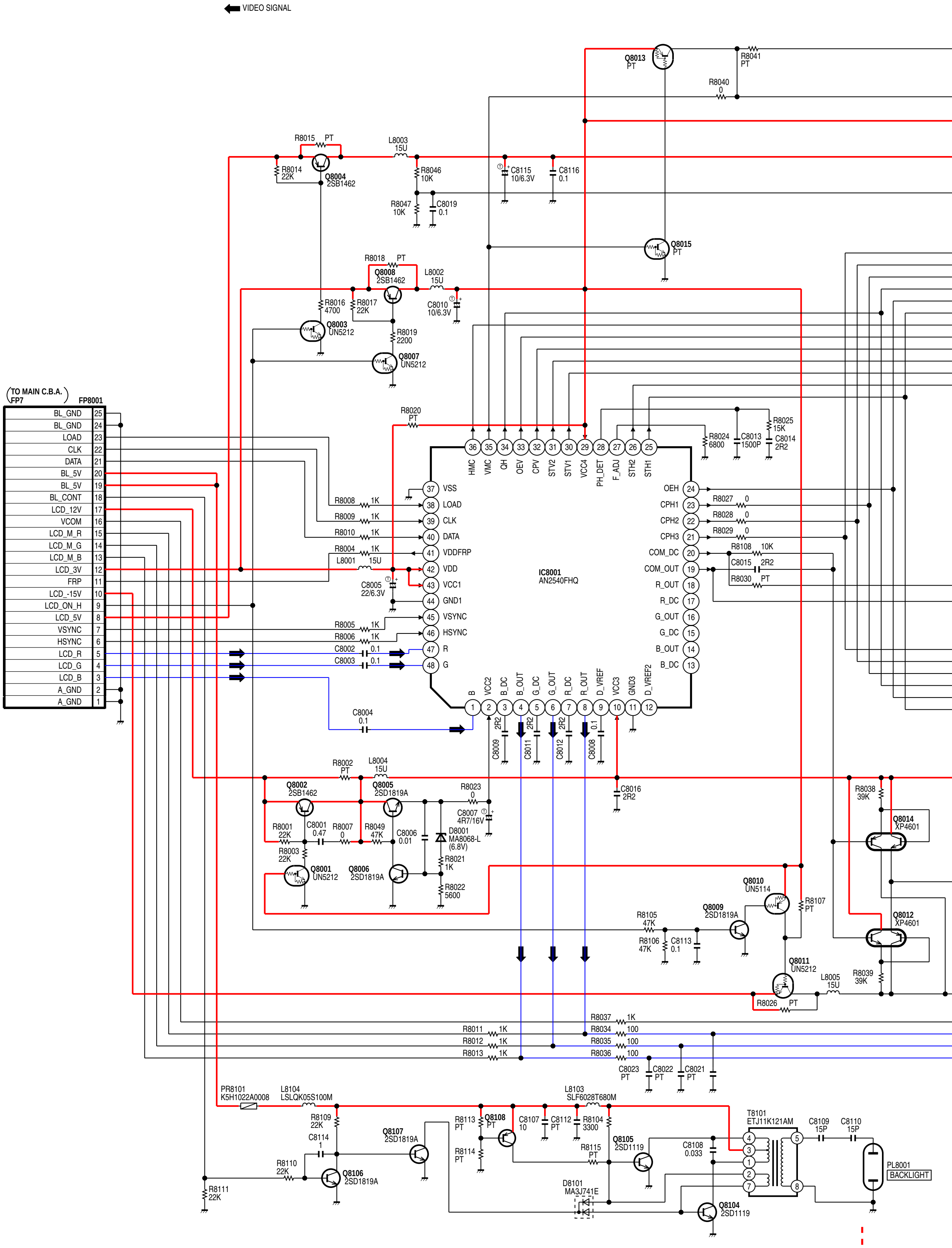

TO MAIN C.B.A
FP8
FP951
1 BL_GND
2 BL_GND
3 BL_5V
4 VIDL
5 RENO
6 RENE
7 HCK
8 HPL
9 VREF
10 VSS
11 VDD
12 VEE
13 VCOM
14 HLTOR
15 HODL
16 VPL
17 VCK
18 VIDH
19 PDR
R957
0
R951 0
R952 0
C951
PT
R953
22K
D951
B3AFB0000024
BACKLIGHT
Q951
2SD2216
R954
10K
R955
120
R956
1K
C955 0.1
C952 0.1
C953 0.1
C954 0.1
FP952
20 TV
19 THL
18 TCL
17 VIDL
16 RENO
15 RENE
14 HCK
13 HPL
12 VREF
11 VSS
10 VDD
9 VEE
8 VCOM
7 HLTOR
6 HODL
5 VPL
4 VCK
3 VIDH
2 PDR
1 THH
EVF LCD PANEL UNIT

LSJB8169

7.5. LCD SCHEMATIC DIAGRAM (MODELS : PV-DV102/PV-DV202)

LCD SCHEMATIC DIAGRAM (A, B)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.



VIDEO SIGNAL
TO MAIN C.B.A. FP7
FP8001
BL_GND 25
BL_GND 24
LOAD 23
CLK 22
DATA 21
BL_5V 20
BL_5V 19
BL_CONT 18
LCD_12V 17
VCOM 16
LCD_M_R 15
LCD_M_G 14
LCD_M_B 13
LCD_3V 12
FRP 11
LCD_-15V 10
LCD_ON_H 9
LCD_5V 8
VSYNC 7
HSYNC 6
LCD_R 5
LCD_G 4
LCD_B 3
A_GND 2
A_GND 1
IC8001
AN2540FHQ
36 HMC
35 VMC
34 OH
33 OEV
32 CPV
31 STV2
30 STV1
29 VCC4
28 PH_DET
27 F_ADJ
26 STH2
25 STH1
37 VSS
38 LOAD
39 CLK
40 DATA
41 VDDFRP
42 VDD
43 VCC1
44 GND1
45 VSYNC
46 HSYNC
47 R
48 G
24 OEH
23 CPH1
22 CPH2
21 CPH3
20 COM_DC
19 COM_OUT
18 R_OUT
17 R_DC
16 G_OUT
15 G_DC
14 B_OUT
13 B_DC
1 B
2 VCC2
3 B_DC
4 B_OUT
5 G_DC
6 G_OUT
7 R_DC
8 R_OUT
9 D_VREF
10 VCC3
11 GND3
12 D_VREF2
Q8013 PT
R8041 PT
R8040 0
R8015 PT
R8014 22K
Q8004 2SB1462
L8003 15U
R8046 10K
C8115 10/6.3V
C8116 0.1
R8047 10K
C8019 0.1
Q8015 PT
R8018 PT
Q8008 2SB1462
L8002 15U
R8016 4700
R8017 22K
C8010 10/6.3V
Q8003 UN5212
R8019 2200
Q8007 UN5212
R8020 PT
R8024 6800
C8013 1500P
R8025 15K
C8014 2R2
R8008 1K
R8009 1K
R8010 1K
R8004 1K
L8001 15U
C8005 22/6.3V
R8005 1K
R8006 1K
C8002 0.1
C8003 0.1
C8004 0.1
R8027 0
R8028 0
R8029 0
R8108 10K
C8015 2R2
R8030 PT
C8009 2R2
C8011 2R2
C8012 2R2
C8008 0.1
C8016 2R2
R8002 PT
L8004 15U
Q8002 2SB1462
Q8005 2SD1819A
R8023 0
C8007 4R7/16V
R8001 22K
C8001 0.47
R8007 0
R8049 47K
C8006 0.01
D8001 MA8068-L (6.8V)
R8003 22K
R8021 1K
Q8001 UN5212
Q8006 2SD1819A
R8022 5600
R8038 39K
Q8014 XP4601
Q8010 UN5114
R8107 PT
Q8009 2SD1819A
R8105 47K
R8106 47K
C8113 0.1
Q8012 XP4601
Q8011 UN5212
L8005 15U
R8039 39K
R8026 PT
R8037 1K
R8011 1K
R8034 100
R8012 1K
R8035 100
R8013 1K
R8036 100
C8023 PT
C8022 PT
C8021 PT
PR8101 K5H1022A0008
L8104 LSLQK05S100M
L8103 SLF6028T680M
R8109 22K
C8114 1
R8110 22K
Q8106 2SD1819A
Q8107 2SD1819A
R8111 22K
R8113 PT
Q8108 PT
R8114 PT
C8107 10
C8112 PT
R8104 3300
R8115 PT
Q8105 2SD1119
C8108 0.033
D8101 MA3J741E
Q8104 2SD1119
T8101 ETJ11K121AM
C8109 15P
C8110 15P
PL8001 BACKLIGHT

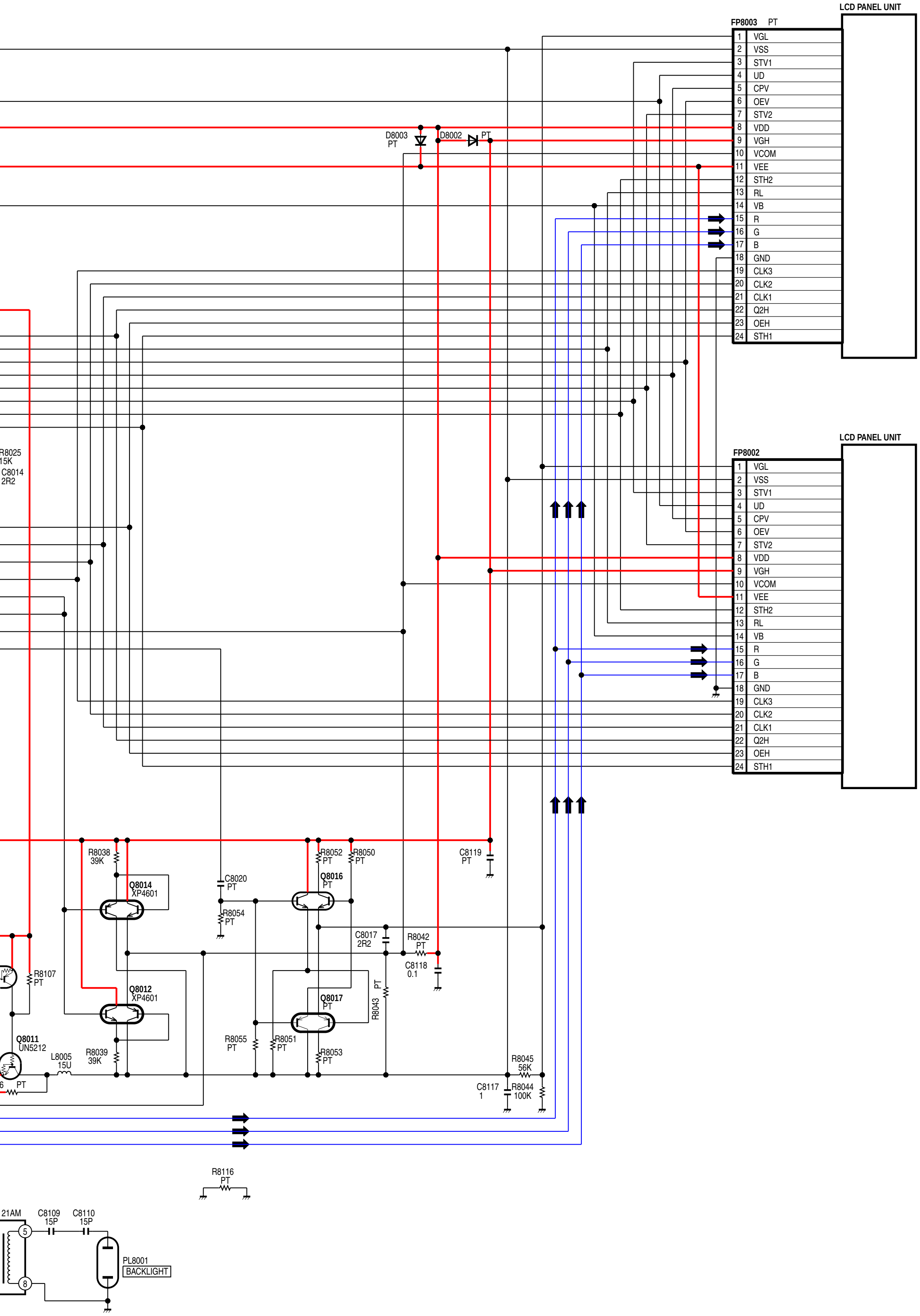
rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT


LCD PANEL UNIT
FP8003 PT
1 VGL
2 VSS
3 STV1
4 UD
5 CPV
6 OEV
7 STV2
8 VDD
9 VGH
10 VCOM
11 VEE
12 STH2
13 RL
14 VB
15 R
16 G
17 B
18 GND
19 CLK3
20 CLK2
21 CLK1
22 Q2H
23 OEH
24 STH1
LCD PANEL UNIT
FP8002
1 VGL
2 VSS
3 STV1
4 UD
5 CPV
6 OEV
7 STV2
8 VDD
9 VGH
10 VCOM
11 VEE
12 STH2
13 RL
14 VB
15 R
16 G
17 B
18 GND
19 CLK3
20 CLK2
21 CLK1
22 Q2H
23 OEH
24 STH1
D8003 PT
D8002 PT
R8025 15K
C8014 2R2
R8038 39K
Q8014 XP4601
C8020 PT
R8054 PT
R8052 PT
R8050 PT
Q8016 PT
C8119 PT
C8017 2R2
R8042 PT
C8118 0.1
R8107 PT
Q8012 XP4601
Q8017 PT
R8043 PT
Q8011 UN5212
L8005 15U
R8039 39K
R8055 PT
R8051 PT
R8053 PT
R8045 56K
C8117 1
R8044 100K
PT
R8116 PT
21AM
C8109 15P
C8110 15P
5
8
PL8001 BACKLIGHT

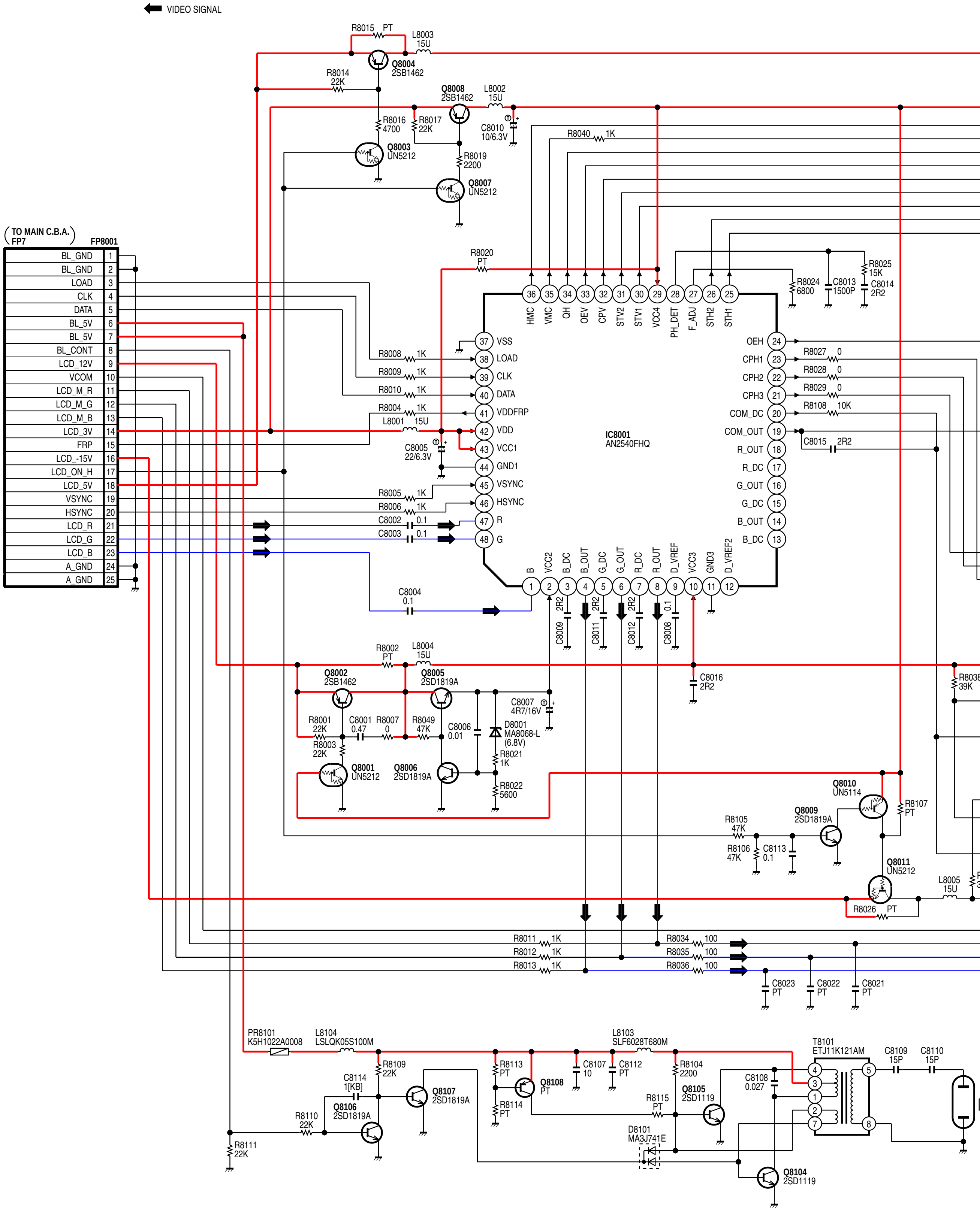
LINK TO VOLTAGE CHART

LSJB8188
LCD SCHEMATIC DIAGRAM
PV-DV102/PV-DV202

7.6. LCD SCHEMATIC DIAGRAM (MODEL : PV-DV402)

LCD SCHEMATIC DIAGRAM (C)

NOTE: For placing a purchase order of the parts,
be sure to use the part number listed in the parts
Do not use the part number on this diagram.


VIDEO SIGNAL
TO MAIN C.B.A.
FP7
FP8001
BL_GND 1
BL_GND 2
LOAD 3
CLK 4
DATA 5
BL_5V 6
BL_5V 7
BL_CONT 8
LCD_12V 9
VCOM 10
LCD_M_R 11
LCD_M_G 12
LCD_M_B 13
LCD_3V 14
FRP 15
LCD_-15V 16
LCD_ON_H 17
LCD_5V 18
VSYNC 19
HSYNC 20
LCD_R 21
LCD_G 22
LCD_B 23
A_GND 24
A_GND 25
R8015 PT
L8003 15U
Q8004 2SB1462
R8014 22K
Q8008 2SB1462
L8002 15U
R8016 4700
R8017 22K
C8010 10/6.3V
Q8003 UN5212
R8019 2200
Q8007 UN5212
R8040 1K
R8020 PT
IC8001 AN2540FHQ
HMC 36
VMC 35
OH 34
OEV 33
CPV 32
STV2 31
STV1 30
VCC4 29
PH_DET 28
F_ADJ 27
STH2 26
STH1 25
37 VSS
38 LOAD
39 CLK
40 DATA
41 VDDFRP
42 VDD
43 VCC1
44 GND1
45 VSYNC
46 HSYNC
47 R
48 G
OEH 24
CPH1 23
CPH2 22
CPH3 21
COM_DC 20
COM_OUT 19
R_OUT 18
R_DC 17
G_OUT 16
G_DC 15
B_OUT 14
B_DC 13
B 1
VCC2 2
B_DC 3
B_OUT 4
G_DC 5
G_OUT 6
R_DC 7
R_OUT 8
D_VREF 9
VCC3 10
GND3 11
D_VREF2 12
R8024 6800
C8013 1500P
R8025 15K
C8014 2R2
R8027 0
R8028 0
R8029 0
R8108 10K
C8015 2R2
R8008 1K
R8009 1K
R8010 1K
R8004 1K
L8001 15U
C8005 22/6.3V
R8005 1K
R8006 1K
C8002 0.1
C8003 0.1
C8004 0.1
C8009 2R2
C8011 2R2
C8012 2R2
C8008 0.1
C8016 2R2
R8002 PT
L8004 15U
Q8002 2SB1462
Q8005 2SD1819A
C8007 4R7/16V
R8001 22K
C8001 0.47
R8007 0
R8049 47K
C8006 0.01
D8001 MA8068-L (6.8V)
R8003 22K
R8021 1K
Q8001 UN5212
Q8006 2SD1819A
R8022 5600
R8038 39K
Q8010 UN5114
Q8009 2SD1819A
R8107 PT
R8105 47K
R8106 47K
C8113 0.1
Q8011 UN5212
L8005 15U
R8026 PT
R8011 1K
R8012 1K
R8013 1K
R8034 100
R8035 100
R8036 100
C8023 PT
C8022 PT
C8021 PT
PR8101 K5H1022A0008
L8104 LSLQK05S100M
R8109 22K
C8114 1[KB]
Q8107 2SD1819A
Q8106 2SD1819A
R8110 22K
R8111 22K
R8113 PT
Q8108 PT
R8114 PT
C8107 10
C8112 PT
L8103 SLF6028T680M
R8104 2200
R8115 PT
Q8105 2SD1119
D8101 MA3J741E
C8108 0.027
T8101 ETJ11K121AM
C8109 15P
C8110 15P
Q8104 2SD1119

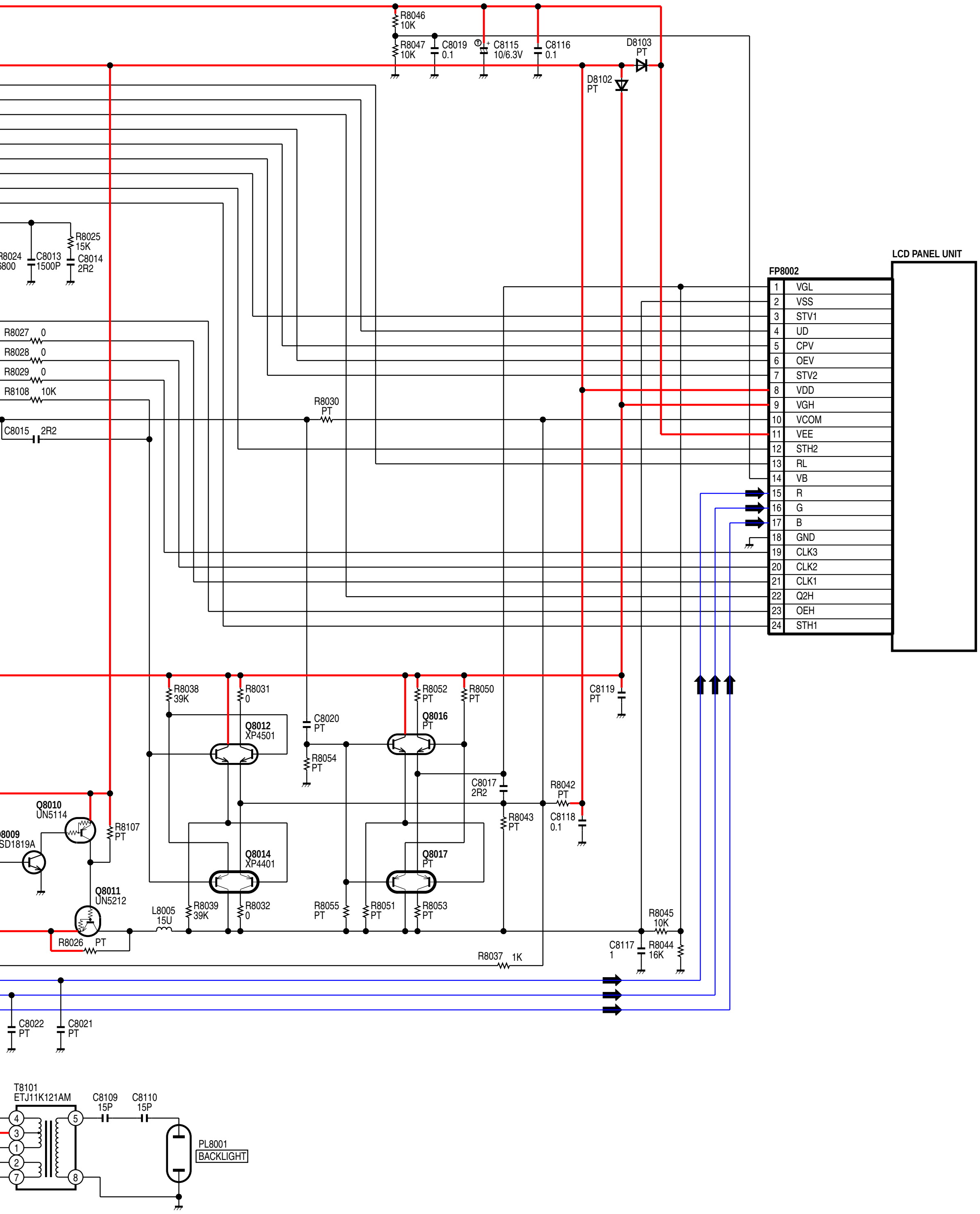
rchase order of the parts,
e part number listed in the parts list.
art number on this diagram.

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



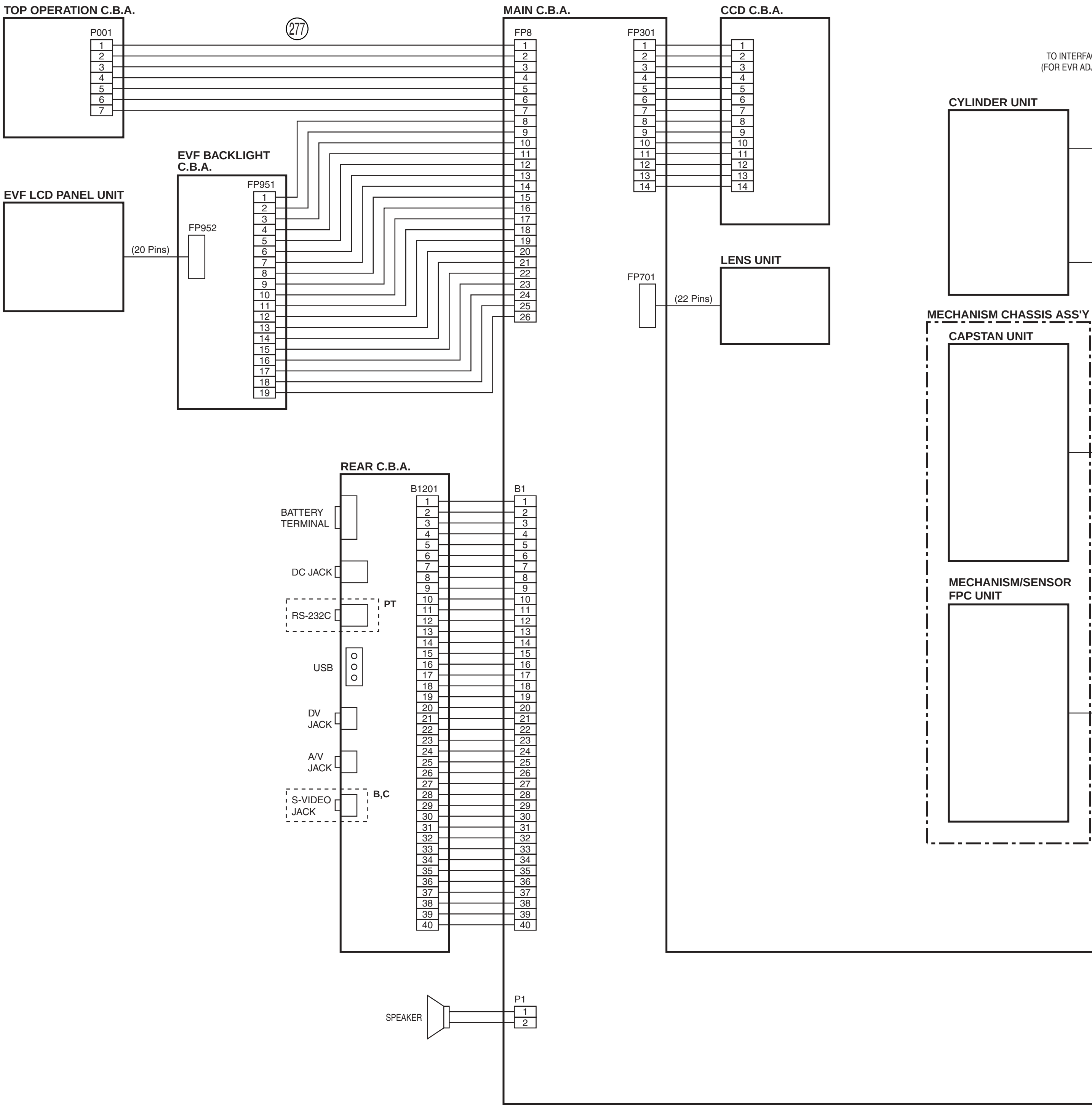
R8046 10K
R8047 10K
C8019 0.1
C8115 10/6.3V
C8116 0.1
D8103 PT
D8102 PT
R8025 15K
R8024
6800
C8013 1500P
C8014 2R2
R8027 0
R8028 0
R8029 0
R8108 10K
C8015 2R2
R8030 PT
LCD PANEL UNIT
FP8002
1 VGL
2 VSS
3 STV1
4 UD
5 CPV
6 OEV
7 STV2
8 VDD
9 VGH
10 VCOM
11 VEE
12 STH2
13 RL
14 VB
15 R
16 G
17 B
18 GND
19 CLK3
20 CLK2
21 CLK1
22 Q2H
23 OEH
24 STH1
R8038 39K
R8031 0
Q8012 XP4501
C8020 PT
R8054 PT
R8052 PT
R8050 PT
Q8016 PT
C8119 PT
C8017 2R2
R8042 PT
R8043 PT
C8118 0.1
Q8010 UN5114
R8107 PT
Q8009 SD1819A
Q8014 XP4401
Q8017 PT
Q8011 UN5212
L8005 15U
R8039 39K
R8032 0
R8055 PT
R8051 PT
R8053 PT
R8045 10K
R8026 PT
R8037 1K
C8117 1
R8044 16K
C8022 PT
C8021 PT
T8101 ETJ11K121AM
C8109 15P
C8110 15P
PL8001 BACKLIGHT
04
1119

LINK TO VOLTAGE CHART

LSJB8178
LCD SCHEMATIC DIAGRAM
PV-DV402

7.7. INTERCONNECTION SCHEMATIC DIAGRAM

INTERCONNECTION SCHEMATIC DIAGRAM

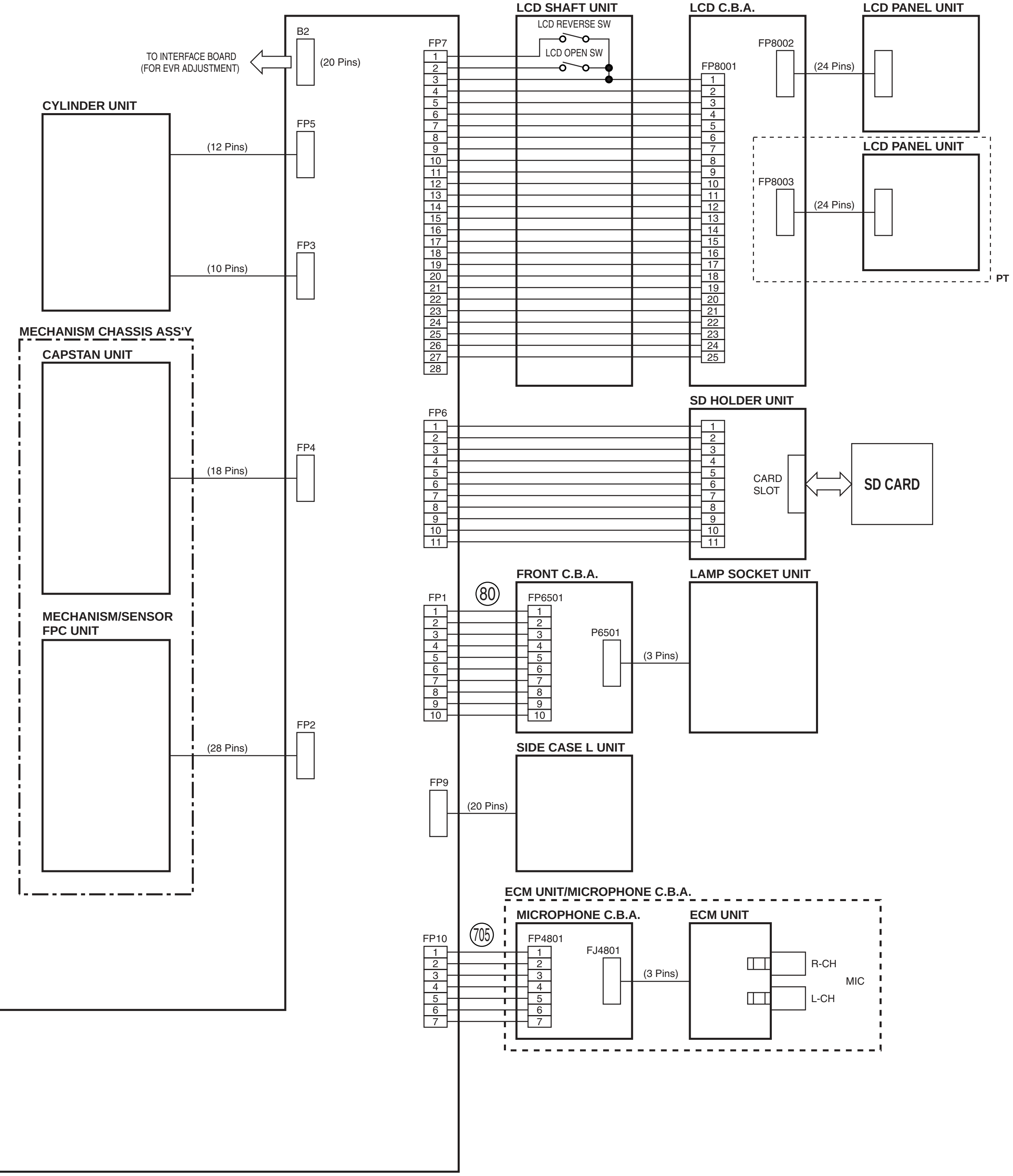

TOP OPERATION C.B.A.
P001
277
MAIN C.B.A.
FP8
FP301
CCD C.B.A.
TO INTERFA
(FOR EVR AD
CYLINDER UNIT
EVF BACKLIGHT C.B.A.
FP951
EVF LCD PANEL UNIT
FP952
(20 Pins)
LENS UNIT
FP701
(22 Pins)
MECHANISM CHASSIS ASS'Y
CAPSTAN UNIT
MECHANISM/SENSOR FPC UNIT
REAR C.B.A.
B1201
B1
BATTERY TERMINAL
DC JACK
RS-232C
PT
USB
DV JACK
A/V JACK
S-VIDEO JACK
B,C
SPEAKER
P1

NOTE:
PARTS ENCLOSED IN DASHED LINES MARKED "PT" ARE NOT USED.

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C
Not Used	PT



LCD SHAFT UNIT
LCD C.B.A.
LCD PANEL UNIT
B2
(20 Pins)
TO INTERFACE BOARD
(FOR EVR ADJUSTMENT)
FP7
LCD REVERSE SW
LCD OPEN SW
FP8002
FP8001
(24 Pins)
CYLINDER UNIT
FP5
(12 Pins)
LCD PANEL UNIT
FP8003
(24 Pins)
FP3
(10 Pins)
PT
MECHANISM CHASSIS ASS'Y
CAPSTAN UNIT
SD HOLDER UNIT
FP6
FP4
(18 Pins)
CARD
SLOT
SD CARD
FRONT C.B.A.
LAMP SOCKET UNIT
FP1
80
FP6501
P6501
(3 Pins)
MECHANISM/SENSOR
FPC UNIT
FP2
(28 Pins)
SIDE CASE L UNIT
FP9
(20 Pins)
ECM UNIT/MICROPHONE C.B.A.
MICROPHONE C.B.A.
ECM UNIT
FP10
705
FP4801
FJ4801
(3 Pins)
R-CH
MIC
L-CH

INTERCONNECTION SCHEMATIC DIAGRAM
PV-DV102/PV-DV202/PV-DV402

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (CAMERA SECTION)

MODE PIN NO.	CAMERA
IC301	
1	---
2	---
3	0.1
4	0.4
5	---
6	0
7	3.0
8	1.2
9	2.8
10	0
11	2.9
12	0.7
13	0
14	0
15	2.8
16	2.8
17	0
18	3.0
19	0.2
20	0.2
21	2.5
22	2.5
23	2.8
24	---
25	0
26	3.2
27	0.2
28	0
29	3.2
30	0.5
31	0
32	0
33	3.2
34	3.0
35	1.0
36	0
37	0
38	0.5
39	0
40	0.6
41	0.6
42	3.0
43	0
44	2.8
45	0.8
46	0.1
47	0.6
48	---
IC302	
1	-7.0
2	-7.0
3	-0.5
4	0
5	-0.5
6	3.0
7	0.2
8	2.8
9	0.2
10	2.8
11	---
12	2.5
13	2.8
14	2.5
15	0
16	15.0
17	-6.5
18	-6.5
19	0
20	15.0
IC701	
1	0
2	0
3	---
4	1.1
5	1.1
6	0
7	0
8	0
9	0
10	0
11	0
12	0
13	0
14	7.6
IC702	
1	0
2	0
3	---
4	1.0
5	1.0
6	0
7	0
8	1.2
9	0
10	0
11	0
12	0
13	0
14	7.6
IC703	
1	0
2	1.7
3	1.7
4	14.8
5	1.0
6	0
7	0
8	0.2
9	0.9
10	0.9
11	0
12	0.2
13	0.4
14	4.6
IC704	
1	0
2	6.1
3	7.6
Q702	
E	4.5
C	5.0
B	0.2
Q703	
E	0
C	2.2
B	0
Q704	
E	0.1
C	0.1
B	6.1
Q705	
E	0
C	0
B	0.7
Q706	
E	0
C	0
B	0
Q707	
E	0
C	1.4
B	0
Q708	
E	0
C	6.1
B	0

MAIN C.B.A. (POWER/VIDEO/AUDIO/COLOR EVF SECTION)

MODE PIN NO.	CAMERA
IC901	
1	3.2
2	0
3	0
4	0
5	1.0
6	2.5
7	1.8
8	2.4
9	1.4
10	0.5
11	0
12	0
13	3.2
14	8.7
15	3.2
16	3.2
17	1.6
18	5.9
19	2.0
20	9.2
21	0.2
22	1.7
23	3.2
24	0.2
25	2.0
26	2.0
27	3.3
28	0.2
29	11.0
30	2.2
31	0
32	9.8
33	1.3
34	---
35	0
36	0.8
37	0.8
38	---
39	---
40	11.2
41	0
42	---
43	3.0
44	3.0
45	---
46	---
47	0
48	0
IC1001	
1	6.0
2	7.6
3	7.2
4	1.6
5	1.6

MODE PIN NO.	STOP
6	1.6
7	1.6
8	1.6
9	1.6
10	1.6
11	1.6
12	0.9
13	7.6
14	7.6
15	0.5
16	1.4
17	0.1
18	0
19	1.6
20	7.7
21	7.6
22	7.7
23	7.6
24	0.9
25	0.8
26	0.3
27	1.6
28	0.9
29	1.6
30	1.6
31	1.6
32	1.0
33	7.0
34	7.9
35	6.6
36	7.3
37	7.7
38	7.1
39	8.0
40	6.9
41	7.5
42	0
43	7.0
44	7.9
45	6.7
46	7.4
47	7.7
48	6.9
IC1002	
1	---
2	0
3	---
4	3.2
5	2.5
IC1003	
1	---
2	0
3	---
4	3.7
5	2.5
IC3002	
1	0
2	5.0
3	0
4	0
5	0.6
6	2.4
7	0.2
8	0
9	0.2
10	2.4
11	2.5
12	2.5
13	0
14	0
15	2.2
16	2.5
17	0
18	1.9
19	0
20	0
21	4.8
22	3.0
23	1.5
24	1.5
25	1.5
26	0.3
27	0
28	0.1
29	1.4
30	1.9
31	1.4
32	5.0
33	0.7
34	3.0
35	1.1
36	1.9
37	1.2
38	1.3
39	0.8
40	0
41	0
42	0
43	0
44	1.9
45	0
46	0.3
47	1.3
48	0
49	1.5
50	2.4
51	5.0
52	0
53	2.2
54	5.0
55	0.2
56	1.5
57	1.8
58	1.8
59	1.5
60	2.0
61	3.0
62	1.5
63	0
64	1.5
IC4301	
1	1.2
2	1.2
3	---
4	---
5	1.2
6	1.2
7	---
8	---
9	1.8
10	1.8
11	1.3
12	0
13	2.5
14	2.5
15	2.5
16	0
17	1.8
18	0.5
19	0.5
20	0.6
21	1.0
22	2.2
23	2.3
24	0
25	0
26	1.9
27	1.9
28	0
Q901	
E	11.2
C	15.0
B	0.1
Q902	
E	0
C	11.8
B	0.6
Q1001	
E	7.7
C	7.6
B	0
Q1003	
E	2.0
C	0
B	0.4
Q1004	
E	0
C	4.9
B	7.6
Q1005	
E	0
C	2.8
B	7.6
Q1006	
E	0
C	1.9
B	1.8
Q1007	
E	7.6
C	-0.1
B	7.3
Q1008	
1	0
2	0
3	0
4	7.6
5	7.6
6	7.6
Q1009	
1	0.2
2	7.3
3	0
4	0.2
5	3.3
6	3.3
Q1010	
E	2.5
C	3.0
B	3.2
Q1018	
E	5.0
C	5.0
B	4.3
Q1019	
E	0
C	0.1
B	2.9
Q1021	
E	3.3
C	5.0
B	3.9
Q1023	
E	3.2
C	5.0
B	3.8
Q1024	
E	1.6
C	1.9
B	2.2
Q1025	
1	1.1
2	1.6
3	1.5
4	1.1
5	1.6
6	1.9
Q1026	
E	2.2
C	0
B	0.1
Q1027	
E	1.9
C	1.9
B	2.6
Q1028	
E	0
C	2.6
B	0.3
Q1030	
E	12.1
C	15.0
B	0
Q1031	
E	0
C	12.7
B	0.6
Q1032	
E	0
C	-4.3
B	-0.5
Q1033	
E	-7.0
C	-15.1
B	-0.6
Q1101	
E	7.7
C	2.1
B	7.6
Q1102	
E	0
C	7.7
B	0.1
Q1103	
E	7.7
C	7.7
B	7.6
Q1104	
E	0
C	0.1
B	0
Q1105	
E	7.7
C	0
B	0.1
Q1106	
E	0
C	0
B	0
TP1	5.0
TP2	5.0
TP3	5.0
TP4	3.0
TP5	3.2
TP6	3.0
TP7	3.0
TP8	2.5
TP9	1.8
TP10	1.5
TP11	15.0
TP12	12.0
TP13	-7.0
TP14	-15.0
TP15	0.2
TP16	0
TP17	0
TP3001	1.0
TP3002	0.1
TP3003	1.0
TP3004	0.9
TP3005	0.1
TP3006	0.4
TP3007	1.2
TP3008	0
TP3009	0.1
TP3010	0
TP3011	0.1
TP3012	0
TP3021	0.2
TP3022	0.1
TP3023	1.9
TP3024	1.9
TP3025	1.9
TP3030	0
TP3201	1.8
TP3202	0
TP3203	0
TP3204	0.8
TP3205	0
TP3206	0
TP3207	0
TP3208	1.4
TP3209	1.8
TP3210	0
TP3211	0
TP3212	0
TP3213	0
TP3214	0
TP3215	0
TP3901	0
TP3902	0
TP3903	3.2
TP3905	4.9
TP3906	4.9
TP3907	3.2
TP3911	2.8
TP3921	3.0
TP3922	2.9
TP3923	0
TP3924	0
TP3925	2.9
TP3926	2.9
TP3927	0
TP3928	0

VOLTAGE CHART
PV-DV102/PV-DV202/PV-DV402

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES,
REFER TO BEGINNING OF SCHEMATIC SECTION.

MAIN C.B.A. (SYSTEM CONTROL/SERVO SECTION)

MODE PIN NO.	REC	PLAY
IC401		
1	---	---
2	---	---
3	3.2	3.2
4	---	---
5	2.9	2.9
6	---	---
7	---	---
8	---	---
9	0	0
10	---	---
11	---	---
12	---	---
13	---	---
14	---	---
15	3.2	3.2
16	---	---
17	---	---
18	---	---
19	---	---
20	---	---
21	0	0
22	---	---
23	---	---
24	3.2	3.2
25	3.2	3.2
26	0	0
27	3.2	3.2
28	0	0
29	3.2	3.2
30	0	0
31	---	---
32	1.7	1.7
33	3.2	3.2
34	---	---
35	0	0
36	---	---
37	0	0
38	---	---
39	0	0
40	3.2	3.2
41	3.2	3.2
42	3.2	3.2
43	3.2	3.2
44	0	0
45	3.3	3.3
46	3.2	3.2
47	0	0
48	0	0
49	3.2	3.2
50	3.2	3.2
51	---	---
52	0	0
53	---	---
54	3.2	3.2
55	---	---
56	---	---
57	1.7	1.7
58	0	0
59	0	0
60	0	0
61	3.2	3.2
62	---	---
63	---	---
64	---	---
65	3.2	3.2
66	3.2	3.2
67	3.2	3.2
68	3.2	3.2
69	3.2	3.2
70	3.2	3.2
71	3.2	3.2
72	0	0
73	---	---
74	---	---
75	---	---
76	0	0
77	---	---
78	3.2	3.2
79	3.2	3.2
80	---	---
81	---	---
82	---	---
83	---	---
84	---	---
85	0	0
86	0	0
87	---	---
88	3.2	3.2
89	3.2	3.2
90	3.2	3.2
91	0	0
92	3.2	3.2
93	3.2	3.2
94	0	0
95	3.2	3.2
96	3.2	3.2
97	---	---
98	0	0
99	---	---
100	---	---
IC402		
1	3.2	3.2
2	3.2	3.2
3	0	0
4	3.2	3.2
5	0	0
6	0	0
7	3.2	3.2
8	3.2	3.2
9	3.2	3.2
10	0	0
11	3.2	3.2
12	3.3	3.3
13	---	---
14	3.3	3.3
15	3.2	3.2
16	3.2	3.2
17	---	---
18	3.2	3.2
19	3.2	3.2
20	3.2	3.2
21	3.3	3.3
22	1.4	1.4
23	1.6	1.6
24	3.2	3.2
25	1.1	1.1
26	3.3	3.3
27	3.2	3.2
28	0	0
IC2001		
1	0	0
2	0	0
3	0	0
4	2.6	2.6
5	7.8	7.8
6	2.9	2.9
7	0	0
8	0	0
9	0	0
10	1.2	1.2
11	0.3	0.3
12	0.3	0.3
13	0	0
14	0.2	0.2
15	0	0
16	7.0	7.0
17	6.3	6.3
18	7.0	7.0
19	1.0	1.0
20	0	0
21	0.3	0.3
22	3.0	3.0
23	0	0
24	1.9	1.9
25	1.8	1.8
26	0.1	0.1
27	1.8	1.8
28	1.1	1.1
29	1.2	1.2
30	1.1	1.1
31	1.1	1.1
32	1.1	1.1
33	1.2	1.2
34	1.2	1.2
35	1.1	1.1
36	---	---
37	0	0
38	0.2	0.2
39	---	---
40	1.7	1.7
41	0.3	0.3
42	2.4	2.4
43	7.5	7.5
44	1.5	1.5
45	1.5	1.5
46	0.8	0.8
47	0	0
48	0	0
49	0	0
50	2.2	2.2
51	2.1	2.1
52	0	0
53	0	0
54	0	0
55	0	0
56	6.3	6.3
57	0	0
58	0	0
59	0	0
60	0	0
61	0	0
62	0	0
63	0	0
64	0	0
IC6003		
1	3.5	3.5
2	0	0
3	0	0
4	7.6	7.6
5	7.6	7.6
IC6004		
1	2.9	2.9
2	2.7	2.7
3	0.2	0.2
4	0	0
IC6005		
1	3.9	3.9
2	1.5	1.5
3	1.5	1.5
4	5.0	5.0
5	1.5	1.5
6	3.9	3.9
7	3.8	3.8
8	3.8	3.8
9	3.8	3.8
10	1.5	1.5
11	0	0
12	1.5	1.5
13	1.5	1.5
14	3.8	3.8
IC6007		
1	0	0
2	2.9	2.9
3	2.9	2.9
4	2.9	2.9
5	0	0
6	0	0
7	---	---
8	2.9	2.9
IC6008		
1	3.3	3.3
2	---	---
3	---	---
4	0	0
5	1.2	1.2
6	2.9	2.9
7	2.4	2.4
8	3.2	3.2
IC6010		
1	4.6	4.6
2	0	0
3	4.6	4.6
4	0.2	0.2
5	2.7	2.7
IC6011		
1	4.6	4.6
2	0	0
3	4.6	4.6
4	0.7	0.7
5	2.9	2.9
Q401		
E	0	0
C	1.7	1.7
B	0.4	0.4
Q2001		
E	7.8	7.8
C	6.3	6.3
B	1.5	1.5
Q6001		
E	0	0
C	6.6	6.6
B	0	0
Q6002		
E	0	0
C	6.6	6.6
B	0	0
Q6003		
E	2.9	2.9
C	0	0
B	2.6	2.6
Q6004		
E	0	0
C	0	0
B	1.3	1.3
Q6005		
E	0	0
C	0.1	0.1
B	0	0
Q6006		
E	0	0
C	2.8	2.8
B	0	0
Q6008		
E	2.9	2.9
C	2.9	2.9
B	2.9	2.9
Q6009		
E	0	0
C	3.4	3.4
B	0	0
TP2001	0	0
TP2002	0	0
TP2003	0	0
TP2004	2.1	2.1
TP6001	0	0
TP6002	0	0
TP6003	0	0
TP6004	2.9	2.9
TP6005	0	0
TP6006	2.9	2.9
TP6007	2.9	2.9
TP6008	2.9	2.9
TP6009	0	0
TP6010	2.9	2.9
TP6011	0	0
TP6012	2.9	2.9
TP6013	2.9	2.9
TP6014	2.9	2.9
TP6016	0.1	0.1
TP6017	0.2	0.2
TP6018	0	0
TP6019	0.1	0.1
TP6020	0	0
TP6021	0	0
TP6022	0.3	0.3
TP6023	2.9	2.9
TP6024	0	0
TP6027	2.9	2.9
TP6028	2.9	2.9
TP6029	2.9	2.9
TP6031	1.0	1.0
TP6032	2.9	2.9

NOTE:
FOR SCHEMATIC DIAGRAM AND CIRCUIT BOARD LAYOUT NOTES, REFER TO BEGINNING OF SCHEMATIC SECTION.

LCD C.B.A. (A, B)

MODE / PIN NO.	CAMERA
IC8001	
1	7.5
2	7.3
3	2.4
4	2.4
5	2.4
6	2.5
7	2.4
8	2.4
9	2.4
10	11.9
11	0
12	---
13	---
14	---
15	---
16	---
17	---
18	---
19	6.0
20	0
21	1.4
22	1.4
23	1.2
24	0.3
25	0
26	0
27	1.0
28	1.0
29	3.0
30	0
31	0
32	0
33	0
34	0
35	0
36	3.0
37	0
38	0
39	2.8
40	1.0
41	0
42	3.0
43	3.0
44	0
45	2.8
46	0
47	2.5
48	2.5
Q8001	
E	0
C	0
B	2.8

MODE / PIN NO.	CAMERA
Q8002	
E	12.0
C	11.9
B	11.3
Q8003	
E	0
C	0
B	2.8
Q8004	
E	4.9
C	4.8
B	4.2
Q8005	
E	7.3
C	11.9
B	7.9
Q8006	
E	0
C	7.9
B	0.5
Q8007	
E	0
C	0
B	2.8
Q8008	
E	0
C	0
B	2.8
Q8009	
E	0
C	0
B	0.6
Q8010	
E	3.0
C	3.0
B	0
Q8011	
E	-14.6
C	-14.6
B	3.0
Q8012	
E1	0
C1	11.9
B1	0.6
E2	0.6
C2	-14.6
B2	0
Q8013	
E	3.0
C	3.0
B	0
Q8014	
E1	1.2
C1	0
B1	0.6

MODE / PIN NO.	CAMERA
E2	0
C2	11.9
B2	1.2
Q8015	
E	0
C	0
B	3.0
Q8104	
E	0
C	4.6
B	-0.4
Q8105	
E	0
C	4.6
B	-0.4
Q8106	
E	0
C	0
B	0.7
Q8107	
E	0
C	0
B	0

LCD C.B.A. (C)

MODE / PIN NO.	CAMERA
IC8001	
1	7.5
2	7.3
3	2.4
4	2.4
5	2.4
6	2.5
7	2.4
8	2.4
9	2.4
10	11.9
11	0
12	---
13	---
14	---
15	---
16	---
17	---
18	---
19	6.0
20	0
21	1.4
22	1.4
23	1.2
24	0.3
25	0
26	0
27	1.0
28	1.0
29	3.0
30	0
31	0
32	0
33	0
34	0
35	0
36	3.0
37	0
38	0
39	2.8
40	1.0
41	0
42	3.0
43	3.0
44	0
45	2.8
46	0
47	2.5
48	2.5
Q8001	
E	0
C	0
B	2.8

MODE / PIN NO.	CAMERA
Q8002	
E	12.0
C	11.9
B	11.3
Q8003	
E	0
C	0
B	2.8
Q8004	
E	4.9
C	4.8
B	4.2
Q8005	
E	7.3
C	11.9
B	7.9
Q8006	
E	0
C	7.9
B	0.5
Q8007	
E	0
C	0
B	2.8
Q8008	
E	0
C	0
B	2.8
Q8009	
E	0
C	0
B	0.6
Q8010	
E	3.0
C	3.0
B	0
Q8011	
E	-14.6
C	-14.6
B	3.0
Q8012	
E1	0
C1	11.9
B1	0.6
E2	0.6
C2	-14.6
B2	0
Q8013	
E	3.0
C	3.0
B	0
Q8014	
E1	1.2
C1	0
B1	0.6

MODE / PIN NO.	CAMERA
E2	0
C2	11.9
B2	1.2
Q8015	
E	0
C	0
B	3.0
Q8104	
E	0
C	4.6
B	-0.4
Q8105	
E	0
C	4.6
B	-0.4
Q8106	
E	0
C	0
B	0.7
Q8107	
E	0
C	0
B	0

COMPARISON CHART
OF MODELS & MARKS

MODEL	MARK
PV-DV102	A
PV-DV202	B
PV-DV402	C